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NATURE AND ART

January 1, 1867.]

BIZZ AND HER FOES.

By Mrs. S. C. Hall.

IN THREE CHAPTERS. CHAPTER I.

"THERE is no use in putting it off any longer, ma'am," said the cook; "the upshot of it will be, we shall be murdered intirely, if we don't get a yard-dog:—those skelping, keeking, flying here and there, 'talian greyhounds—poor shivering 'atomies, I call 'em—all legs and no body—such shadders as *them* are no more use for watch-dogs, no, not so much as that little hairey-walker Weazel, with a head so like a dandelion, that if I blowed it hard enough, I could tell what's o'clock."

There was a pause; cook noted the unconvinced expression of my face, and resumed—

"So exposed as the place is, ma'am!—standing in a corner, and not a hap'orth to hinder the stable and all belonging to it.—Oh, ma'am dear, what are ye saying about the Po-leese? I'd take an oath this blessed minute on all the books that ever war shut or opened, that the last of them blue-bottles that ever rounded the corner of the Gloucester-road, was this day week. You know, ma'am, we have two of them 'talian greyhounds, and you yourself calls them Ninon the Wise and Folly the Foolish,—well, I opened the gate to see if I could see the milk coming down the road, and to keep Folly in, I lifts her in my arms, when she takes a flying leap after the tollman's magpie, when up he sidles——"

"Who? the magpie, cook?"

"No, ma'am, the Poleese; 'Don't agitate yourself, good woman,' he says, 'the weather's too warm for agitation, stand still, and call the little beast: you'll never catch her.' 'Do your duty,' I says, 'you're long and lane enough to catch a dragon-fly, let alone a 'talian greyhound,—"baste," indeed!—I only wish I had the basting of you! and how dare you call me "good woman"?' I says, for I was struck dumb by his impidence, and hadn't a word in my head; and with that, before I could draw my breath, he takes off his hat, that isn't a hat, but a 'shiney,' and says, 'I ask your pardon, I did not intend to call you out of your name.' Oh, didn't I wish for a stone in a stocking, and him and me on the fair green of Ballynatrent!"

Now this was a hasty admission on the part of our excellent cook, which she would not have made in cold blood. It is by no means an uncommon thing to find *Irishmen* in that, or indeed I am sorry to say, in any class of life, stammer and fidget, and look confused, when you intimate that they are natives of the Green Isle; and I am ashamed to confess that I often meet with Irish gentlemen, who, if they do not deny their country, are too ready to deal it a vigorous kick, as if by spurning the land of their birth they elevate themselves; but not so with *Irish-women:* their eyes sparkle, and their cheeks flush, and their sweet voices (none the less sweet for the intoning their enemies call "brogue") speak out frankly what they feel and believe—that with all her faults, there is no country in the world to be compared to their own "darling Ireland." I reverence that love of native land. I need not tell my readers, young or old, to what country our cook belonged; you could not hear the sound of her voice, you could not look into her soft grey eyes fringed by long black lashes, you could not experience her desire to oblige, no matter at what personal sacrifice, without knowing at once that she was a daughter of the "Emerald Isle." Every one said she was too handsome for a cook, but what was better, she was a grateful and affectionate servant, ready, as she declared, at any time "to go to the world's end through fire and water to serve me or mine." That I did not require, but I should have been glad, if she had put things in their right places, and did not make a flat-iron do duty as a door-weight, and oblige the door-weight to act as a coal-hammer: the housemaid once declared she made her bed with the fire-shovel—that was a libel. But the remarkable thing about our cook was her stoutly denying she was Irish:—"Irish! she had no call to them, her grandfather indeed might have been born there, or her grandmother, but that did not make *her* Irish, she hated the very sound of the brogue!" After such a declaration, she was particularly careful to call plates "pleets," lisping her words as finely as her own mincing-machine minced

meat: it was very sad and very wrong to tell that untruth, more especially as the genuine love of her country would break forth naturally. Sometimes she would come to me with a tale of Irish distress which brought tears into her fine grey eyes, and apologize in this way:—"Sure, the craythurs are in such misery, that my heart aches fit to breaking, at the way they're in; and you, madam, are so fond of *your own country people*, that though *I* have no call to the Irish, I thought *you* would like to know the trouble that's on them." There is a strong prejudice against Irish servants in England, but that was no excuse for cook's untruth; it was *the* blot in her character.

I was always glad to catch her tripping on this subject, and the allusion to the mode of warfare practised on "the fair green of Ballynatrent," was evidence of country so decided, that, very maliciously, I asked her to tell me "where the fair green of Ballynatrent was situated," upon which she blushed and turning away answered,—

"It's a place I heard tell of *once*, ma'am dear—a place, and its ways, my grandmother often discoursed about; but sure any place would do, if I could only get a good throw at him, the lazy sneering scamp;" adding "and now, if you plase, I'll go on with my trouble:—

"All this time, Folly was leaping her heart out after that ugly Mag., that kept on whistling with its eye cocked on the top of the great toll-board. Ninon the Wise, who well knew the differ between her master's whistle, and the whistle of a Brompton magpie, stood as grave as a judge inside the rails. At the minute, a cart came out of the great gate at Eagle Lodge, and my heart was in my mouth, for I saw no escape for Folly, and I could have spitted the *poleese*man as I would a goose, and he standing twisting a straw in his mouth.

"'Can't you run?' I says, 'and not see the dog massacreed in the sight of your eyes? what's the like of you for?' I says; I could not stir, for all the breath was gone out of my body, and my heart leaping like a fish after a fly. Well! the words were taken out of my mouth as much as the breath, I may say, by seeing Ninon, the stately crature, make one bound like a stag across the road, and seize Folly by the 'scruff' of her neck, from among the horses' feet, and drop her inside the gate, and the magpie whistling all the time, not caring if the poor foolish dumb animal had been scrunched under the cart wheels; and if she had, I'd have wrung the head off her, or my name's not Mary Ogreman!"

Here was a tangle! Mary Ogreman, our rosy cook, two Italian greyhounds, a magpie, and a policemen, all about a yard-dog!

"And what did the policeman say to Ninon's sagacity?"

"Well, I don't know, ma'am; I don't think he understood it at once, only his two eyes grew like the bull's eye of his own lantern, and he standin' in the middle of the road, until the carter cries, 'Lave the way, will ye, or I'll be over you as well as the dog,' and he not over the dog at all! who was squealing and grumbling at her presarver, like many a one else in the world, who don't know when they are sarved or saved. But what put me past myself intirely, was that more than two hours after, as I was hindering the white sauce from coming to a *bile*, a tattering ring shakes the back gate. I thought it was the Wenham Lake, which runs to waste before you can look round you, so I takes my sauce in my fist, and makes a rush at the gate, and sorra a thing was there, but that aggravating poleeseman. 'I beg your pardon, madam' (that was his word), 'madam' he says, 'but I am curious to know if the big thin dog is mother to the little thin one.' I don't know how I kept the sauce off him, the great omadawn, and me so busy!"

"What a good, wise creature that Ninon is," I exclaimed; "another reason, Mary, why we should not have a yard-dog."

"Oh, as you plase, ma'am," said cook, exchanging the air narrative, for the air dignified, and preparing to pass from the verandah to the kitchen; "as you plase, ma'am, of course; it 's just as you and the master plazes, only if all I've said this very half-minute don't prove what cruel want we are in of a yard-dog, why it don't, that's all! I suppose I must lose mee bits of clothes, and the little property in mee box, the caddy spoon, and punch-ladle that belonged to me grate grandfather, who *was* a man! As sure as the sun shines, we shall be all murdered; the dark nights too, and the end of the world so nigh."

I made no answer. Cook lingered, twisting up a refractory honeysuckle, still anxious to carry her point.

"I really do not want any more dogs, cook; it was only yesterday you said 'the house was poisoned with them.'"

"Oh, then, ma'am dear, sure I don't want another *in* the house, only outside, to purtect the property. Sure, I've shown you this very minute, how exposed the corner and stable is, and the *poleese* dear at a brass farthing a piece! and that whistling magpie, distracting one's mind with its nonsense, and the carts going the road, as if it belonged to them, and that poor darlin' Ninon obleeged to take police duty on herself, or see her comrade massacreed."

"And is a yard-dog to cure all these unpleasantnesses, cook?"

"Oh, ma'am, if it's laughing at me ye are, I'm done; I'll say to Hatchment, 'Don't talk to me about your dog, sir, if *you* plaze, though you have been so good as to offer her to my mistress, and she such a wonderful watch.'"

"No, Mary," I interrupted, with admirable gravity, "I am by no means a good watch."

"*You*, ma'am! oh, ma'am dear, sure I never evened the like of that to you,—you indeed?"

"You have just said I was a wonderful watch."

"I'd not contradict you, ma'am, but if the words came out of my mouth, it was not me that said them; it was Hatchment's dog Bizz, the baste, I meant was the watch, and a wonderful watch intirely she certainly is—by all accounts."

"I am very glad to hear it."

Brompton Turn
Pike - Tolls.

"Just the sort of dog we want, that will stand no nonsense, want no looking after; not all as one of our dogs, ma'am, that crave as much attention as babies; sure if Ninon only wets her feet, she'll come to me to dry 'em before she goes into the drawing-room! and if an insect bothers her too much, and she can't get him, by reason of his earning his bread on the back of her neck, or right under her chin, she'll give me no rest or pace till I take down her comb and brush, to have a hunt for him, and she knows the sight of the comb as well as myself! Now Bizz is altogether different from that: she's a pure-blooded, smooth-coated bull-tarrier; that's what *she* is; her grip is the grip of a vice, her legs are bandy with strength, and though she has lost one eye, and her ears are riddled—indeed one is as good as gone—through tearing by cats, rats, and things, she do be after day and night, in shores, and out of shores; known she is to all rat-catchers, that would give their eyes for her, and though she'll do them a good turn now and agin, when they're hard up for a dog, she wouldn't, Hatchment says, call one of them master—not she. She wouldn't stay here, poor Bizz, the baste! only she has got a liking for me—Hatchment is certain of *that*."

There was a pause: cook returned to the charge.

"Talking of cats, ma'am, sure anything that would circumnavigate those cats, that destroy the garden, would be a blessing unspoken: the walls are as thick with cats, as an old kitchen with beetles. Why, the cats flick their tails and grin at our dogs: it's heart-breaking, so it is, to see the voilets and everything else scuffled about through them:—but there, ma'am, I have done my duty honest, if we're all robbed and murdered, its no business or fault of mine. I could swear the lock of the back gate, had a nail in it on Sunday morning: and I'd be glad to know how the coke-box, two trowels, and a blacking-brush were spirited off the bottle-rack in the yard. If Bizz, the baste,—but I'm done!"

Whenever poor cook's suggestions were set aside, she assumed an air of pathetic, yet offended dignity, that was highly amusing, and after the passion, whined out a running accompaniment.

"I know my place, I'm only a plain cook, roast and boiled ("biled" she pronounced it), soup, fish, poultry or game, bread or mint sauce, lobsters and crabs, and vegetables in all dressings, could undertake a cow and butter, feed pigs, hatch chickens, and cut the red heads of turkeys, agin the world; *I* never blazens *myself*, I'm only a plain cook, but scorn baking, ever since them dirty Germans set up their yeast against honest barm! I'm only a cook, and a woman, and know I'm of no account beyond my kitchen, and as clean a scullery as ever *mortial* entered! I'd never have mentioned the dog, ma'am, only you have a *laning* towards animals, and Hatchment says, he'll 'tice her into a bag somehow, and drown the poor faithful creature if you don't have her."

"Drown Bizz!" (she had long been of my acquaintance, though by no means one of my dog friends.) "Drown Bizz! why, if she is so valuable, why drown her?"

Mary O'Gorman—or as I am ashamed to say, Mary Ogreman, as she chose to anglicise her name—stumbled a great deal over the "reasons" her friend Hatchment had for wishing to get rid of this ugly paragon of canine fidelity; but the "reasons" were cogent: since he had given up his yard, he had no place "convanient" to chain Bizz in. She was an ugly customer in his shop, where, seated on the top of a potato-basket, she was ever ready to do battle with any one, or any thing, on the least provocation. Fond, indeed, I am of dogs, which (cunning things) they know so well, that many a homeless cur, of low degree, has followed me home, while the more aristocratic dogs, who never go abroad without an escort, sniff, and wag their tails, while regarding me for a minute or so; with their deep-brown, or grey-green eyes, seem to say with mute eloquence, "We know you, you love us and we love you." Yet frequently as I passed Hatchment's, and was tempted to order some pretty pot of mignionette, or fine hyacinth, or snowy and succulent celery (for Hatchment dabbled in flowers, and was eminent as a greengrocer), for a considerable time, the sight of that fiendish-looking dog, perched like grim death on a potato-basket, often scared me away. I did not mind her torn ears, nor her ugly, yellowish, bandy legs, nor that horrid broken-down nose peculiar to her family. I pitied her poor blind eye, which, half closed, had a penitential look, and gave an expression of gentleness to that side of her face, at once tender and touching—if that side happened to be turned to the street. I felt as if I could order whatever I pleased, but the other side might have belonged to another dog; there was a split in her upper lip, directly over one of the whitest and most determined-looking fangs, I ever saw in a dog's head; *that* was the side of her bright keen eye, and when it "eyed" any one intently, the lip moved and twitched in a nervous disagreeable manner, so that the ugly "gap," closed and unclosed, as if it sneered "Ah, ah! do you understand? I'd like to bite you." Her coat was jet black, and shone like satin; it was a coat any dog might be proud to wear. I suppose everybody has heard of the Irishman who said "the most eloquent feature in a dog's *face* was its *tail*." Now Bizz's tail could hardly be called "eloquent," but it was determined: it stuck out stiff and curveless, nearly on a line with her back, it seemed too stern and too sturdy to wag; there was no wag in it, it might have been made of cast-iron. Bizz disdained conventionalities, she would not wag her tail because other dogs wagged theirs. No, she stiffened it into perfect indifference, neither elevating nor lowering it, but let it be, a firm and independent tail. The first time I saw her on the potato-basket, she looked very different from what she did when on guard in her master's cart.

Once, I happened to be at her blind side when the cart stopped at our gate, and I asked Hatchment "how his poor dog lost her eye." I shall never forget the alarmed look he cast on the dog, as he advanced close to me, and said in a very low tone, "Madam, don't ask before her, she can't bear it, it hurts her feelings so, I'm glad she didn't hear you; she'd tear the Queen on her throne in pieces, if she heard her Majesty talking about her eye!"

On the potato-basket I saw frequently the reverse of the medal—the split lip quivering over the white fang, the keenly fiery eye, darting its arrows here and there from beneath its "tan" eyebrow, the blunt upturned nose, the bandy fore leg, and above all the sturdy tail, strong, muscular, and inflexible. Experience had taught me in time two peculiarities in this queer dog: she never picked a quarrel with another dog, she held herself above her species; if attacked by any combative lady, she would prove her breeding, and fight as became her bull-blood, but a dog-quarrel must be forced on her, and she was never uncivil to well-dressed or commonly respectable customers. One morning I wanted to order some pink Asters, and walked over to Hatchment's for the purpose. Bizz was on the top of the potato-basket as usual, and as usual I spoke to her; the only reply she ever made to a salutation to a *good* customer was to draw up her lip and wink. She did so with more graciousness than common, indeed she winked twice, and I felt almost inclined to pat her, when I perceived two boys peeping at her through the vegetables piled behind where she sat (the shop was double fronted).

"I have never got so much as one cabbage-leaf for my rabbits, since she took to the shop," said one rosy-checked fellow; "the governor says I may have the trimmings, but if we only look at them, she's out upon us. I wish she was dead."

"Oh, my eye! Isn't she ugly though?" observed the other urchin. Now whether Bizz caught the offensive exclamation or not, I cannot tell, but she sprang from her elevation, and would certainly have punished the author of the obnoxious sound, if both boys had not managed to bolt into the tailor's shop, next door, and shut themselves in.

But Bizz had good reason to hate the boys that congregated in Steward's Grove. Where the legions came from I never understood; unkempt ragamuffins some of them, whose clothes hung together by a miracle, and whose lungs were as strong as a brass trumpet: others were better dressed, but to the full as mischevious, with demure-looking slates and satchels, intent, I am sorry to say, on upsetting Hatchment's baskets, and in the *mêlée*, stealing his apples and oranges. One fellow more daring than the rest would "shy" (I believe that is the term) a piece of wood or a stone at Bizz, and run away, certain that she would pursue him, and then as Mr. Hatchment was much too unwilling to move quickly, the other lads would assault the nuts or apples, or whatever they could get at. The poor dog had as many bumps and scars as ought to have won her a medal, for those marks were indications of her guard over her master's property. Bizz had no worse foes than the mischievous boys of Steward's Grove.

But the cats! It was generally believed that a cat, whose kittens Bizz had disposed of in a summary manner, had scratched her eye out; that, added to the natural antipathy of terriers to the feline race, engendered in Bizz the most deadly

hatred to cats, and every cat in the neighbourhood knew it. As long as Mr. Hatchment combined the sale of coke with greengroceries, and was owner of a yard and a shed only a little distance from his shop—of which I shall have to speak hereafter—Bizz had charge of the yard, and it was no uncommon thing to see a dozen cats ranged on the top of the shed, with their hair on end, and their tails like bottle-brushes, all yelling and spitting in chorus, Bizz in a state of insanity, now running along on two legs, then on three, then springing in the air in the hope of catching even the tip of a cat's tail. It was

curious to observe how the different cattish dispositions manifested themselves. One grimalkin might be seen standing with arched back, elevated tail, and nails sticking into the mortar; another crouching like a tiger, with widely-staring eyes, as if waiting for an opportunity to spring on its foe; another moving with a crab-like movement, sly and sidling; another rocking backwards and forwards; but all animated by the same antagonistic feeling towards Bizz. At her bark in Steward's Grove (supposing it only the bark of "kindly welcome" to her master, for she was too determined a dog to be noisy), every cat left off washing her face, or lapping her milk, or caressing her kittens, or even watching the sparrows on the wall, and bristled in a state of warfare. If the poor dog ever had peaceful desires, if she was ever inclined to doze in the sun, she was sure to have her combativeness called into action by the butcher's boy stopping and exclaiming, "Ah! there you are! Let me catch you near our shop again, and then I'll make you remember who stole the sheep's head;" or by the baker exclaiming, "Mr. Hatchment, I'll give you sixpence if you'll give me a fair throw at your dog, and I'll forgive her (after the throw) for the rolls she stole." Ay, Bizz had an ample abundance of foes, and I really believe her only *true* friend was our cook! "Why?" you will say, and in reply I say, "Patience!"

After the little display of cook's eloquence on behalf of Bizz, I determined to walk to Hatchment's, and ascertain *why* he was so anxious to get rid of the dog, which he had often told me was of more use to him than "Mrs. Hatchment, or any two boys he ever employed." And though cook was an excellent creature in many ways, and an admirable cook, yet the fact of her denying her country kept me in continual doubt as to her veracity; whatever cook said, I *felt* the question, "Is that true?"

Mr. Hatchment, however, in reply to my statement of what I had heard, said,—"Yes, it was so exactly, and sorry he was for it; he did want to find a good home for poor Bizz. Somehow Mrs. H. and Bizz had got on bad terms. Mrs. H. was a good woman, and a good wife, though as crooked as a bad *parsnup* about anything that crossed her brain, and Bizz had crossed her brain very often, and she said true, he could not afford to keep the dog any longer."

I could not help smiling at this, for I believed that Bizz had a way of keeping herself. Hatchment understood my smile and continued:—

"Yes, ma'am, so long as I had the shed and yard, which Bizz considered her own, having brought up three litters there, she stayed there, because also, she was chained, which I did out of mercy to the neighbours' cats, and if she did not like the dinner Mrs. H. gave her, why she got no other; but since I gave up the yard, when Mrs. H. does not please her in the cooking, she goes straight to our butcher's and walks off with whatever piece of meat pleases her best, and takes it into Brompton churchyard to eat it quietly. She's as fleet as a roe, and once in the churchyard, she knows the boys dare not follow her; and indeed they don't bother much about catching her, for they know, sooner than have her badly used, I'd pay for the meat, and that's what Mrs. H. can't stand. Last week there was three shillings in the week's bill against Bizz, for sheep's head and trotters. I gave in to the *head*, but "trotters" is what I know the dog's above—Bizz is above trotters!—and the butcher and I had words about it, and Mrs. H. put in her word as well, and she said Bizz or she must leave the house. Now, ma'am, I think it would not be the thing to let Mrs. H. go, and keep Bizz; so, if I don't get a home for the poor animal——" Hatchment was obliged to leave the sentence unfinished, as Bizz had attacked a small boy who was vainly attempting to get at her blind side, which was turned towards a basket of oranges.

"The greatest little thief in Chelsea," Hatchment called him, and then when he saw that Bizz had bruised one of his poor red shanks, without however breaking the skin, the good-natured greengrocer gave him an apple not to cry.

"Please, sir," stammered out young impudence, "I'll hold the other leg to her, if ye'll give me an orange!"

"There never was such a watch," continued Hatchment, after dismissing the imp, with the threat of a sound thrashing; "never! Your yard is too well walled for her to escape, so she could not get into trouble with any of the butchers, and she's equal to any three policemen, by day or night. The corner is very much exposed: poor Bizz, poor brute, she's worth her bit any day."

I asked Hatchment if he had had her from her puppyhood, and then he told me her history as far as he knew it.

FLAMBOROUGH HEAD.

By John Cordeaux.

FEW places on our English coast will so well repay a visit as the noble Yorkshire headland of Flamborough. To the lover of nature it offers many and varied attractions, in the grand scenery of its coast-line, the countless thousands of sea-fowl which, during the spring and summer months, frequent its sea-washed cliffs for the purposes of incubation, and the beauty and variety of the wild flowers which everywhere deck

"The zigzag paths and juts of pointed rock."

To the archæologist it offers an additional attraction in the remains of the famous fortification known as Danes' Dyke.

The best way to see Flamborough is on foot. We shall, therefore, in the course of this paper, take our readers along with us in a walk round the headland, more especially to observe the habits of its numerous tenantry, the sea-fowl. We shall not, however, find them in any great numbers till we arrive at their great haunt, the lofty mural precipices of Speeton; for constant persecution has all but driven them from the lower range of cliffs on the southern side of the promontory.

Let us suppose ourselves then, early on some fine summer's morning in July, at Bridlington Quay, a few miles south of Flamborough, properly equipped for a walk,—a stout stick in hand, a good landscape glass slung across our shoulders, and not forgetting a well-filled sandwich-case. We will follow, as near as we are able, the line of coast until we reach the western extremity of that grand wall of limestone rock overlooking Filey Bay,—no easy walk on a warm July day, particularly as it is nearly all cross-country work and over broken ground; and although, looking across the Bay, the two lighthouses placed near the extremity of the headland appear at no great distance, yet, following the line of coast, we shall find it take us six good miles to reach them, and thence ten more to the western end of the Speeton Cliffs.

And now for a few minutes, as we stand here on this north cliff of Bridlington, let us observe the line of coast. How is it that bold promontory of chalk before us retains its proud position comparatively uninjured by the storms of thousands of winters which have broken against it; while the land on which we stand is gradually, but surely, year by year, receding before the encroachments of the sea? It is that the entire length of the Yorkshire seaboard, from Spurn Point to a mile beyond our present position, is composed of what geologists term the "Boulder clay," a dark clay containing some large fragments and innumerable smaller portions of water-worn rocks thickly embedded in its substance. The higher portion of these clay cliffs is capped with fine sands and gravel, and an occasional bed of clay and peat marking a fresh-water deposit,—the site of an ancient lake, long since drained dry by the sea, which has for ages been slowly eating up the land. Thus, in the whole length of this coast, we find no solid rock until we reach this limestone headland. The sea constantly washing the base of these clay cliffs undermines

them, and the rains and frosts of winter cause landslips, breaking off great masses from the top. Thus the land gradually recedes, and the sea marches forward at the computed average rate of two yards and a half in a year. Thus, it is said, two miles have disappeared since the Roman occupation of Yorkshire, one since the Norman conquest. In old maps of the county, villages are marked, the sites of which are now buried "many a fathom deep," and nothing but their names remain to testify that once man lived there. Not far from the present Spurn Point stood the ancient town of "Ravenspurn," a place of considerable importance at a period when Hull was a poor fishing village. Edward IV. landed there in 1471; but Ravenspurn, like many another long-lost Yorkshire village, has left scarce a tradition to mark its site.

The Flamborough promontory is composed entirely of close-grained chalk rock, containing layers of flints. It is the northern extremity of that great reef-like chain of hills which, commencing on the south coast of England at Beer Head, runs northeastward through Suffolk and Norfolk, crops out prominently again in the Lincolnshire and Yorkshire wolds, and finally terminates in the sea at Flamborough.

The mass of chalk which composes the headland is capped with an immense thickness of the "Boulder clay," and this clay contains fragments of nearly all the older rocks, from the immense "boulder-stones" to the small rounded water-worn pebble, ages since floated down on the glacial sea from the mountains of Cumbria and the far north, before the "Wold" hills had finally emerged from the water. As we walk along the cliff top towards Sewerby, we see how last winter's storms and frosts have detached large masses of clay and gravel, which lie in great disjointed masses on the shore. These landslips are already covered with vegetation. Amongst the plants most conspicuous are the "Bladder Campion" and jungle-like patches of the "Giant Horse-tail." Two miles north of Bridlington the chalk rock first shows itself above the level of the coast, and from this point the cliffs gradually increase in height till we reach the head, and thence to Speeton, where they reach their greatest altitude, 436 feet above high-water mark.

Opposite Sewerby Hall the footpath turns across the fields in the direction of the village; but, regardless of the notice which informs us that "all trespassers will be prosecuted," let us keep straight forward. How glorious is the view this fine summer's morning! Early as we are, others are out before us, for the mackerel season has commenced and the boats are out in the bay, with all hands busily employed in line-fishing. Far to the south we see the long line of the Yorkshire coast, till it is lost in the distance beyond Hornsea. From our elevated position we are able to form some idea of the encroachments of the sea, from the time when the coast-line was probably level with the extreme point of the headland.

These sand cliffs are a favourite resort of the Sand Martin, as those small mouse-coloured swallow-like birds are called which are continually passing and repassing us as we walk along.

There is one of their colonies. You see the holes are bored in a narrow vein of sand, running between the chalk and "boulder" clay. These holes they excavate with their sharp beak and claws, occasionally to the depth of two or three feet, and at the further extremity they deposit four or five pure white eggs, in a nest made of hay and feathers. And we may conclude that they will succeed in bringing off their young in safety, for those holes are placed in such a totally inaccessible position as to defy the attempts of the most persevering bird-nester.

But what is that little bird with the bluish grey-coloured back, black and white tail, and the dark streak through the eye, which keeps flitting before us from one stone to another, jerking its tail up and down when it alights, and then flying forward twenty or thirty yards, perching on a stone, and going through the same performance? It is the Wheatear, a summer visitant to this country. We should probably find its nest carefully concealed under some of those large stones which project from the clay, and from under which the soil is partly worked away. It is constructed of hay, wool, moss, and hair, and contains five or six pale blue-green eggs. Formerly hundreds of these little birds were taken with horse-hair nooses by the shepherds on the south-country downs, and sold as an article of food.

We now come to a sudden break in the cliffs, the termination of a deep natural valley, which runs inland, gradually decreasing in depth, and thus trending upwards till lost in the central highland. The crest of the opposite hill is crowned by a low and somewhat broken embankment, the famous "Danes' Dyke;" for to the Danes does popular tradition ascribe this remarkable work, although it is probably of much older date. Whoever were the original constructors of the embankment took advantage of the natural formation of the country, and used this deep and narrow ravine as a fosse to protect the salient face of the work. This valley runs in a line leading nearly directly across the promontory, and about a mile and a quarter from its southern termination is lost in the "Wold." From this point the embankment is made much stronger, and protected in front by a deep artificial ditch, from which the soil has been taken to form the earthworks, still, however, taking advantage of any natural variation in the surrounding country which might add to its strength. Even now in most places, and after the lapse of so many centuries, the work of the original labourers remains so perfect, that, well manned, it would present a serious obstacle to the advance of an enemy. The northern termination of the "dyke" is on the opposite side of the promontory, and it is there carried to the very brink of a precipice 300 feet deep; so that the flank could not be turned except by sea. It is the lines of Torres Vedras on a small scale. The total length of the "Danes' Dyke" is about three miles from coast to

coast. Trees clothe the sides of the trench, adding greatly to the wildness of the scene. At the northern end they are stunted and gnarled, and with branches twisted by the rough northern breeze; but at the southern and well-sheltered termination, they are tall and uninjured. The old earthworks are gay with golden gorse, and light green masses of tall herbaceous plants and bracken, amongst which most conspicuous by its height is the Weld, or *Reseda Luteola*, a plant which furnished our ancestors with a yellow dye. Let us descend into the valley, and climb the opposite hill. Hark to the sweet, wild song of the linnet, as he sits with his carmine breast showing bright in the clear sunshine, on the topmost spine of that gorse-bush. A blackbird rises from the bracken, and dashes deep into the plantation, uttering its well-known alarm note, which sounds to us like the word "chink, chink," quickly repeated. The rabbits are scudding in and out of the bushes; and high over-head a single lark is trilling forth its song of praise. All nature is rejoicing in the bright sunshine of early morning. Mingling with the songs of the birds in one grand chorus, comes the ceaseless murmur of the waves on the pebbly beach. And now, as we climb the height and stand at the foot of the earthen mound, a solitary carrion crow, a very raven in size, rises slowly from the dell, and we wish for a gun to bring the black marauder down. He has been breakfasting on a young rabbit, which we find partly devoured amongst the green bracken at our feet. As he sullenly sails away in the direction of the Sewerby woods, he reminds us of the days when Denmark's grim raven banner floated out from behind these strong intrenchments, over the ranks of blue-eyed, fair-haired warriors, who ravaged the pleasant Yorkshire valleys to the very walls of York. And here they could fall back with their plunder, and renew their strength for fresh inroads, and, with their backs to the sea, their dragon-prowed galleys safely moored in the little bay (now the North Landing-place), wait for fresh supports from their countrymen. Here Ida, the "flame-bearer," and his sons, with a great host of Angles, marched to the conquest of Northumbria. And now let us leave "Danes' Dyke," which we shall cross again to-day at its northern termination, and keep close along the coast, and as near as we can to the edge of the broken cliff. And very picturesque and showy are these broken cliffs of diluvium, for at this season their weather-worn sides are gay with many wild flowers. Here we see bright yellow clusters of the Kidney Vetch, and the Great Yellow Bedstraw, contrasting with the pale pink flower of the Trailing Rest-harrow. There again are the purple heads of the Field Scabious, and the larger ones of the Great Knapweed, with white clusters of the Bladder Campion. Where this landslip has left the top of the cliff with only a slight covering of soil, is a growth of more lovely plants;—the Tufted Centaury, with its delicate pink flowers, thick clusters of the Yellow Stonecrop, creeping along the exposed surface of the rock, and a profusion of pale blue Harebells.

But stay, let us look from the flowers to the sea; for there is a large heavy-looking bird, with outstretched neck, flying swiftly low down near the surface of the water—at this distance, not unlike a wild goose. Now it has settled in the sea, and not more then four hundred yards from our position. Out with our landscape glass, and let us have a look at him as he sits low and long in the water, a very pirate craft in appearance. It is a cormorant. Now he commences fishing, diving under the waves, and often, when necessary, going down a great depth in pursuit of the fish, which seldom escape him. Now he emerges again, but at a considerable distance: you may count thirty to forty slowly, from the time he dives to his re-appearance. He has caught sight, however, of our telescope, which he perhaps mistakes for the barrel of a gun, and is off, with the same low rapid flight to another part of the coast. That little bay which we are approaching forms the South Landing; and thence a road leads across the promontory through the fishing village of Flamborough to the north shore. A number of small boats, used principally for crab-fishing, are drawn up on the beach. In the centre of the bay are a number of gulls; let us bring our telescope to bear upon them, and endeavour to determine their species. You perceive three distinct sorts in the little company. Those four or five large ones swimming somewhat apart, with the yellow bills, are "Herring Gulls;" but further on are several smaller gulls, not unlike the Herring Gull in appearance, but with greenish-grey bills—they are the "common" species. Yonder again is still a smaller one, with a black head and red bill—it is the "Black-headed" or "Peewit" Gull, as it is sometimes called. Those "Peewit Gulls" breed in colonies on the shores of some of the inland "meres," and the eggs are considered a great delicacy. There again are two gulls larger than any we have seen, sitting apart on that "boulder-stone," which has rolled from the cliff top, and now lies partly embedded in the sand, and surrounded by the tide: it is covered all over with trailing masses of the common bladder sea-weed. Bring the glass to bear upon them, and you will then perceive that they have the upper parts of the plumage black, except the head and neck, which are white. We know them for the "Great Black-backed," the largest of our British gulls; their wings when expanded covering five feet nine inches from tip to tip. They are of an exclusive disposition; do not mix with other species (generally being found in pairs on exposed portions of the coast); and are by far the least frequently met with. On the waste ground near the landing-place, as also on the road leading up to the village, are drawn up the herring-boats, the property of Flamborough fishermen. All are gaily painted and in order for the herring season, which will soon commence. About the first week in August, the boats are taken down on wheels, launched and fitted out in the little bays known as the North and South Landings, and soon the principal portion of the inhabitants of the little fishing village will be gathering in the harvest of the deep.

After leaving the South Landing-place at Flamborough and climbing the hill, we pass on our left a low mound—perhaps the last resting-place of a Brigantian chieftain—and not far from the tomb of the old warrior, and close to the edge of the cliff, a "third-class target," which a persevering volunteer has constructed out of some old iron plates, the relics probably of a steamer which has gone to pieces on these rocks. Half a mile further, and we stand near the extremity of the headland; and here let us wait awhile, the better to view the grand scene. The extreme point of all we cannot reach, for that is now partly separated from the mainland by the slipping of the upper clay cliff. It represents an immense block of almost isolated rock, of a diamond shape. On its northern side, the ceaseless wash of the waves has excavated a grand natural arch; and in each of the little bays which flank the central mass is an immense column of limestone, which in the course of ages has become detached from the parent wall, marking the slow encroachment of the sea on the hard chalk cliffs. Stretching directly out from the head is a long reef, barely covered at low water, and thickly overgrown with seaweed and tangle, which floats backwards and forwards with the flow of the sea over the reef. The water at a short distance from the coast is a deep green; but close in-shore, the constant friction of the waves on the white limestone is continually rubbing off minute particles of chalk, which gives the water quite a milky appearance. Thus in the course of ages the water wears away the softer portion of the cliffs, leaving those great isolated pillars standing as monuments of its eroding power.

We shall find that this northern shore presents a very different aspect to the more sheltered southern coast, along which we have been hitherto walking; for it has been exposed to the full sweep of the storms of ages, and everywhere on its rugged precipices bears marks of its battle with the waves. Here the coast recedes, forming a lovely bay; there again, standing out in a bold promontory, its sides broken into deep fissures and caverns, in some places worn completely through, forming a giant archway, or like the vaulted roof of a cathedral. Then again, we find, as at the head, great masses of cliff standing solitary, and surrounded by the sea; and there they yet may stand for thousands of years to come to break the wild fury of the northern storms. The base of these cliffs is excavated into deep holes and caves, some of them, like "Robin Lythe's Hole," of great extent and beauty, and which will well repay the trouble and difficulty of exploring. Those heaps of broken spars and planks saved from the waves, remind us of the insecurity and danger of this iron-bound coast. Thanks to the precautions taken, it is seldom we now hear of a wreck. The lighthouse, situated on an eminence overlooking a beautiful bay, is 87 feet high, its light being 214 feet above the level of the sea. The apparatus revolves once in six minutes; it is triangular, two sides displaying a white flash, and the third a crimson one. But when the headland is wrapped in mist and spray, or during the drift of a northern snow-storm, the light would be of little avail to warn off the storm-tossed mariner. To provide for this emergency, a small station has been built close to the cliff, from which an 18-pounder is fired every quarter of an hour. Many of the migratory birds which arrive on our coasts in the winter months, as woodcocks, redwings, widgeons, &c., are picked up dead at the foot of the lantern—dazzled by the light, they dash like moths against the thick glass, and are killed. On one occasion one of these thick glass plates was broken by the force with which a wild duck dashed against it.

But we must press forward, as we have yet a long line of coast to explore. Yonder are a small flock of terns, familiar as they are to visitors at the sea-side, under the name of Sea Swallows; not unlike small gulls in appearance. Mark their mode of feeding as they fly along in line, one behind the other; now one, now another dashes downward, making a visible splash in the sea, but not alighting, and then rising again resumes its flight, each time probably capturing some minute object floating near the surface. How different in their flight and colour are those black-and-white birds, with the long red bills, which, as we approach the cliff, rise rapidly from the water below: by their pied appearance and shrill whistle we know them to be Oyster-catchers. They have been busily cleaving open with their strong bills and feeding upon the mussels on the reef below.

Passing a beautiful bay shut in by lofty cliffs, and containing, near its entrance, two remarkable insular masses of rock, called the "King and Queen," we next come to the North Landing. At the bottom of a steep descent, the northern termination of the road which crosses the promontory, are drawn up a long array of gaily-painted pleasure-boats, in great demand during the summer by the hundreds who visit Flamborough from the neighbouring watering-places of Bridlington and Filey. Perhaps no portion of the coast exceeds in beauty this lovely bay. In the cliffs, both to the east and west, many of the finest sea-caves which penetrate the rocks may be explored. One remarkable cavern, called "Robin Lythe's Hole," is easily accessible at low water. Many years since the rocks about this bay, as also those near the lighthouse, were the resort of thousands of sea-fowl—we may now walk for miles along the coast and see but few, until we reach their last retreat, the almost inaccessible range of the Speeton cliffs.

The rapid decrease of the sea-fowl on this coast is much to be regretted, and is, we are sorry to say, attributable in a great measure to the almost constant persecution of the birds by parties who visit Flamborough during the spring and summer for the sake of "having a shot at the sea-fowl." As the "cheap excursion" trains from the manufacturing districts increase in number, so certainly will the birds decrease. Indeed, it is impossible to walk along the cliffs on any fine day during the summer months without hearing the constant report of guns, fired by men and boys from boats below;

and we are constantly distressed by meeting the so-styled sportsmen on their return from a too successful battue with clusters of Guillemot and Puffin, &c., swinging from their guns. Thus the birds have been driven away from the lower ranges of cliff, and it is plain, if the present senseless and cruel persecution is continued a few years longer, that the neighbourhood will be deprived, in the eyes of all true lovers of nature, of its greatest attraction. Besides the thousands of birds which are thus annually destroyed and carried away by "excursionists," a large number are wounded and disabled, and it is not unusual to see wounded birds struggling in the water unable to rise. This slaughter is carried on at a time when many thousands of sea-fowl have young ones to support and rear; and what must be the fate of the young when the parents are shot? Not satisfied with shooting at them on the wing, we have seen merciless wretches fire into the birds as they sat crowded together on the narrow ledges of rock, totally regardless of the misery and pain which that one discharge alone may cause to the many they will only partly disable and cannot secure. After passing the North Landing-place we shall find the cliffs gradually increase in height, and when we reach the northern extremity of "Danes' Dyke," we look down a precipice nearly 300 feet deep. It is only by keeping, as we have done, along the summit, and following the ins and outs of the coast-line, that we can fully enjoy the grandeur of the scenery. Let us get over the slight fence which seems to protect the cattle from falling over the precipice, and, lying down on the green sward, crawl to the edge and look over. What a magnificent scene! Hundreds of feet below, the green water breaks against the cliff; but at this height the wash of the waves is scarcely audible. Right and left stretch the giant walls of white limestone, their surface scarred and broken by long exposure to the weather, and furrowed and seamed by narrow ledges and ridges, which form secure resting-places for those long rows of Guillemot; while hundreds now are wheeling and screaming far below, dwarfed in size by the distance and the stupendous character of the scenery. Let us try and obtain a better view of the birds: and this we may do by crawling to the edge of a projecting portion of the cliff, which will enable us to look directly down upon them as they sit on the ledges of the opposite rock. Yonder birds sitting nearly upright, with the dark brown head, neck, and upper parts, and the white breasts, are Guillemot, and form by far the greatest proportion of the many inhabitants of the rocks. Their eggs, as well as those of the other sea-fowl, are much sought after as an article of food, and great quantities are taken in the spring from the ledges by the "cliff-climbers," who descend from the summit by a rope; several of the neighbouring villagers obtaining a part livelihood by this dangerous occupation. The eggs of the Guillemot show an almost endless variety in shade and markings, and it is almost impossible to find two alike. Placed as they are on the narrow shelves of rock, without any nest, we may well wonder how they ever retain their position until the young are hatched. Providence, however, has ordered that although they are very thick at one end, they gradually taper to the other, which, compared with other eggs of the same size, is very narrow, so that when disturbed by any cause, they roll round on the small end as on a pivot without falling off. If we carefully inspect those long rows of Guillemot, we may possibly discern one of that closely-allied species (perhaps after all it is only a variety) called the "Ringed or Brindled Guillemot." This bird closely resembles the common one, only differing from it in having the eye encircled by a narrow white ring from which a streak of the same colour extends down the neck. The Ringed Guillemot is considered a rare bird at Flamborough. On the same ledge with the Guillemot are three or four birds, not unlike them in appearance, but with the upper parts black instead of dark brown. The bill, however, is the distinguishing feature; it is much stronger and thicker than in the Guillemot, with a white furrow across it, and a white streak extending from the base of the bill to the eye. This peculiar beak marks them at once as "Razorbills." We may also know them by their cry, which resembles the word "urr urr," or "orr," while the call of the Guillemot resembles the noise made by a policeman's rattle, and sounds like the word "girrrrrrr."

Yonder, again, are two Puffins or Sea Parrots sitting together, at the mouth of one of those crevices in the cliff. Could we see the bottom of the crevice, we should probably find a single round egg, grey spotted with brown. The eggs which are thus concealed at the bottom of narrow and deep holes are seldom taken by the "cliff-climbers." What a grave look the birds have as they sit facing each other, their great red, yellow, and blue beaks giving them quite a top-heavy appearance. Those gulls with the grey-blue backs, white head, wings, and tail, so many of which we see sailing slowly backwards and forwards, halfway down the cliff side, may be easily recognized by their cry, which somewhat resembles their name, "Kittiwake." The Speeton rocks are a well-known breeding-place of the beautiful Kittiwake gull. We may see some of the young birds on the ledges below; and so unlike are they to the old birds in plumage as to have been taken for a distinct species.

That blue bird, with the white patch between the tail and back, which has just dashed over the cliff top, is the "Rock Pigeon," and nearly resembles our well-known domestic "Blue Rock." There is little doubt that all our domestic breeds of pigeons have sprung from the wild Rock-doves. They breed in considerable numbers in the sea caves below, and from their wild and shy nature and rapid flight fall less readily victims to the roving gunners. The eggs, which exactly resemble those of the domestic bird, are placed in the most inaccessible parts of the caves, in shallow nests constructed on ledges of the rock.

We have now reached the highest part of the Speeton cliffs; from this point the chalk range

runs inland, and underneath crop out the blue clays of Speeton, rich in fossils. From this point we have a magnificent view of Filey Bay and the white houses of the distant crescent, beyond which, running out into the sea, is the long sandstone promontory known as the "Brig."

Here our ramble for the present must terminate. Over the hill on our left is the little village of Speeton from whence we can take the rail to Bridlington, or, if we prefer it, follow the highroad, and continue our walk across the Wold hills and through Bridlington proper to the Quay. Let us, however, sit down awhile, and, after eating our sandwiches and lighting the friendly pipe, watch the blue smoke curling upwards and whirling away in little rings and eddies in the summer air. Sitting here on this hill-side, what a glorious prospect of sea and land stretches before us; from this spot we can overlook nearly the whole of the promontory. Yonder are the lighthouses, and nearer the little village of Flamborough, with its red-tiled houses and grey weather-beaten church. We cannot at this distance distinguish the old castle, little of which remains to remind us of the former power of the ancient family of Constable. Nearer still we can trace the line of the Danes' Dyke, with its groups of plantations. Far to our right is the sea and Bridlington, and still farther to the right the range of the Yorkshire Wolds. Now we look across a highly-cultivated country; green turnip-fields and waving corn have replaced the gorse commons and heath-covered hills; and the Stone Plover and Great Bustard have given place to the Partridge and Wood-pigeon: yet the natural features of the country remain much probably what they were centuries ago. Brigantes, Romans, Danes, and Normans have all lived and toiled and fought on the land before us, and have passed away; and we, sitting here on this hill-side this summer afternoon, are the representatives of the mixed races, units in this great working toiling nation, too glad to get away for a few days from the toil and noise of cities, to return strengthened and refreshed for our work. After all, Nature is the best physician, and

> "If thou art worn and hard beset
> With sorrows that thou wouldst forget;
> If thou wouldst read a lesson that will keep
> Thy heart from fainting and thy soul from sleep,
> Go to the woods and hills! No tears
> Dim the sweet look that Nature wears."

THE PRINCIPLES OF GOOD TASTE IN DECORATIVE ART.

By J. B. Waring, F.R.I.B.A.

AMONG all the subjects a writer could select for an essay, there is perhaps not one which is more open to criticism and dispute than that of taste. The old classical maxim, "de gustibus non est disputandum," is just one of those assertions which immediately lead to a discussion; in which both parties insist on the cogency of their respective arguments and conclusions, because both *feel* them so vividly, however incompetent they may be to reason on them logically. Whilst admitting, then, that in a certain sense, each individual taste, amongst a great variety, may be right, and fitted for the person who adopts it; yet among all these various expressions of perceptive power, some are undoubtedly right, some wrong; and although tastes may differ to an infinite extent, and we should never dream of laying down infallible rules for their guidance, yet we would point out, that certain important underlying *principles* are applicable to them all, and are the only true tests by means of which we can decide as to what extent each particular taste is bad or good. In a broad and general sense, we hold that good sense and good feeling must form the foundation of all good taste, whether it is evinced in morals and manners, in fine or in decorative art; and although these two fundamental qualities are not absolutely requisite in matters of æsthetic taste, yet they must not be absent if that taste is to receive its highest development. For it is certain, that though some persons are born with more natural sensibility in art than others, yet is it a quality, even with them, to be disciplined, educated, and improved; and Burke, in his introduction to "The Sublime and the Beautiful," justly remarks that wherever the best taste differs from the worst, he is convinced that the understanding operates, and nothing else, and that men of the best taste by consideration come frequently to change those early and precipitate judgments which the mind, from its aversion to neutrality and doubt, loves to form on the spot.

> "It is known," he continues, "that the taste is improved exactly as we improve our judgment; by extending our knowledge, by a steady attention to our object, and by frequent exercise. They who have not taken these methods, if their taste decides quickly, it is always uncertainly; but they who have cultivated that species of knowledge which makes the object of taste, by degrees and habitually, attain not only a soundness, but a readiness of judgment, as men do by the same methods on all other occasions."

All the great writers on the subject, ancient and modern, insist on the necessity of cultivating taste before it can be termed good and be trustworthy; yet nothing is more common at the present day, than a ready presumption and a thorough self-satisfaction in deciding on matters which require in truth the utmost delicacy of perception, and can only be properly judged of by persons of special education in art, and who have undergone that discipline which professional study requires.

Although we admit that many foolish and

frivolous persons are met with, who, untrustworthy in all other matters, still evince much good taste in their houses, in dress, and in ornaments; yet this is but a superficial quality, and, unless combined with good sense and good feeling, leads only to a mere sensual perception of external fitness in form and colour, in the lowest departments of art. But such as these, we may be sure, would never command attention or respect for their decisions in the Fine Arts or in the cognate realms of philosophic inquiry and criticism. When sensibility is combined with the power to create and execute, it constitutes what is termed genius: when it is combined with sound judgment and good feeling, we meet with good taste; and, as Goldsmith has tersely put it in his Twelfth Essay, both, in their degree, are "composed of Nature, improved by Art; of feeling tutored by instruction." Sir Joshua Reynolds, also, in his seventh discourse, combating the idea that taste is a natural power of selection in every individual, and not to be gainsaid, declares that, if such were the case, "the arts would lie open for ever to caprice and casualty, if those who are to judge of their excellences had no settled principles by which to regulate their decisions, and if the merit or defect of performances were to be determined by unguided fancy." These observations of writers on art for whose judgment, knowledge, and taste we have the very highest respect, though originally intended to apply to the fine or liberal arts, are equally true as regards matters of taste in ornamental design.

In all subjects of this description, harmony, or fitness of the parts to the whole, forms an essential requisite. Good sense, also, is absolutely requisite in their general design, and good feeling is shown in their special application.

After these opening remarks on Good Taste in general, we proceed to consider its constituents in matters of decorative art. Mr. M. Digby Wyatt, in a very excellent lecture on "The Principles which should determine Form in the Decorative Arts," has briefly summed them up as consisting in Variety, Fitness, Simplicity, and Contrast. To these we would add, as of the highest importance, Harmony. Other qualities, of a more material and technical nature, which we have always to consider are Form, Colour, and Effect; and in these particular constituents of design it is that we seek for the qualities first enumerated, and, according to the presence or absence of them, we are justified in determining how far any work under notice is characterized by good or bad taste.

The main points which lead to the production of works evincing a correct taste, however widely they may differ in themselves or in their styles, are as follow:—

In the designer, a good natural feeling or sensibility in matters of Form, Colour, and Effect, combined with good sense.

In the work itself, simplicity yet variety, contrast and yet harmony.

The application of all these qualities and methods should logically be the province of the true and perfectly educated architect. It is with great pleasure that we quote *verbatim* the sensible and earnest remarks of Mr. Owen Jones; who, in his introduction to the "Handbook of the Alhambra Court, at Sydenham," forcibly points out the incongruity of "Greek porticoes, nondescript internal putty decorations, Louis Quatorze furniture, cinquecento ornaments, floral papers and floral carpets, in a London mansion of the nineteenth century." "The decorative arts," he continues, "are of one family, and must go hand in hand with their parent, architecture; the effort to revive the one will help the other."

"In all ages but our own, the same ornaments, the same system of colouring which prevailed in buildings, pervaded all other works, even to the humblest. . . . It is far different with ourselves. We have no principles, no unity. The architect, the upholsterer, the paper-stainer, the weaver, the calico-printer, and the potter, run each his independent course; each struggles fruitlessly; each produces in art novelty without beauty, or beauty without intelligence. . . . Men do every day, and every hour of the day, place their *intuitive* knowledge on questions of art in opposition to the opinions of those who have made them their especial study. This can never be prevented. Art is the patrimony of all, but it is the more necessary that it should be regulated. . . . No improvement can take place until all classes, artists, manufacturers, and the public are better educated in art, and the existence of general principles is more fully recognised."

In these observations we cordially concur, and would especially plead for extended education amongst the people, in matters of art, by means of schools in which all branches of fine and industrial art may be taught, and by the publication of cheap standard works on such subjects; among which, besides those already noticed, we recommend Mr. W. Burges's "Cantor Lectures," Dr. Dresser's "Art of Decorative Design," and the Reports of R. Redgrave, R.A., on the Exhibitions in London and Paris of 1851 and 1855. The general principles laid down in the last work are excellent, though at times perhaps too rigidly enforced. For example, the author would not allow the constructional forms of one material to be applied to another; therefore, the arch form suitable to stone or brick, would be considered inapplicable to wood. It is clear that, if such a doctrine were carried out thoroughly, architectural design in iron and wood must become monotonous and poor indeed. We note this instance specially, because its adoption has led to much poverty of design, in wood particularly. The round and semicircular forms, it should be remembered, are not *only* constructional, they are general throughout Nature from the shell to the rainbow; and are, above all others, ornamental in character and fitted for decorative purposes, as may be seen from examples in all styles of art. Originality of design mainly depends on freedom of individual action; and in matters of taste, after a proper education has been obtained, each artist becomes a law unto himself, and must stand or fall according to the value and merit of his work.

In future numbers we propose to give illustrations of the principal processes used in the ornamentation of buildings, furniture, &c., representing examples beautiful in themselves, interesting to the public, and useful to decorators generally.

ON SKETCHING FROM NATURE.

By AARON PENLEY, Professor of Landscape Painting at the Royal Military Academy, Woolwich.

No. VI. GROUP OF FIR TREES DRAWN FROM NATURE.

WITH the new year I had almost been induced to commence a series of studies more elementary in character than any as yet introduced into the pages of NATURE AND ART; but upon more mature consideration, it appeared to me that perhaps it would be better to steer a middle course, and meet the wishes of the general public, than to address myself exclusively to the more limited class who practise and delight in water-colour drawing. It is gratifying to find there are so many to whom this work is such a source of pleasure, and who look for its periodical publication with considerable interest; and I cannot but infer that this is the fact, from the numerous letters constantly received from strangers, relative to my several contributions with the accompanying instruction.

I confess I doubted whether the reproductions of my original drawings would be presentable, so many thousands having to be printed, and by the steam press too; but it is encouraging to find this difficulty better and better overcome by the extreme care and study exercised in making the means sufficient to the end. This is very evident from the great improvement in the colouring of the last subject, where the tints, with one exception only (the green tint on the shadowed side of the hut, which should have been more grey), are really good, and admirably suited for the learner to copy. The sky and distance are quite satisfactory. It is, I think, due to those who seek for guidance and instruction from these examples, that I should express much confidence in anticipating increased truthfulness in every succeeding number.

The present subject is of a different character, being such as I have been solicited to introduce by subscribers, consisting only of a group of Fir Trees, the like of which may be met with in almost every belt or plantation of the same species. It was drawn upon the spot, and selected for the clear manner in which the light and shadow were developed, giving to each branch, or portion of it, an individuality peculiarly its own, and yet so expressed as to favour breadth of effect and harmony in the entire group. Such "bits" or "studies" require but little time to produce, although nothing can be more useful or profitable than a sketch-book filled with the different classes of trees presented to us in our every-day walk.

I much recommend the practice of carefully and freely drawing each tree with the black-lead pencil, especially with reference to the main stems, noticing well their direction or inclination from the perpendicular, and how the several lines affect each other in giving a graceful disposition of *form*, because it is only by a due observance of these combinations that an impression of elegance and refinement can be conveyed. It is a matter of importance to the general effect, that the bearings of the principal lines should be studied and remarked upon. For instance, it is as well to note, if the perpendicular stem of one tree is accompanied by another that is taking an angle or curve in a certain direction, what influence the change of line has upon the eye; whether it is, or is not, too abrupt; or if the two compose so agreeably as to give a pleasing effect. I like much to linger before groups of trees, young or old, whether clothed or not clothed with foliage, and by change of position to see the many varieties of forms they take, and which of the many would produce the most pleasing composition. There is real pleasure in this—much to be learnt and much to be put in practice. Lessons may be had in many localities whence lessons could scarcely be expected to be gleaned, and our daily converse with a common-place scene may be thus fraught with increased interest and pleasure.

The ability to draw naturally leads to observation of detail and generalization, it being evident that this cannot be exercised without a corresponding reflection upon everything presented, as to construction, growth, character, and use. How far this is desirable, every one must judge for himself. I can only say, that to myself the enjoyment is beyond expression; and often when walking over what would be considered a monotonous and dreary plain, with a canopy of dull leaden clouds, I am struck with beautiful undulating lines, varieties of tone and tint, with receding distances and aërial perspective, that produce much to be admired, thought upon, and studied. The infinitude of Nature demands the highest mental exercise and the perfection of Art, and we only are to blame if we do not see in her every phase something (I would rather say everything) from which to glean instruction, and to derive contemplative pleasure.

In writing thus, it must be clearly understood that the motive is to lead *others* to exercise a similar attention to Nature in her generality, and not to suppose that it is only upon scenes of grandeur and acknowledged loveliness that our admiration should be called forth. Doubtless the character of such favoured spots is calculated, from its exquisite combinations, to arrest the attention of the most unobservant; but it is also from every description and feature of landscape, as well as from various accidental groupings of figures, cattle, trees, buildings, vessels, &c., that the lover of Nature and Art should derive constant delight combined with instruction. Something can be gathered from all we see, if the information conveyed is really sought for.

In commencing the outline of the present group

of trees, the central stem should be drawn first, noticing carefully the direction of inclination from a perpendicular line. This *must* be correct. After this, give the stem nearest to it to the right, placing a dot at the proper distance for the bottom, and another for the top. By this plan the lines cannot fail of being true in position. The tree to the left must follow, by placing the dots both for the bottom and central part of the stem at its junction with the lower cluster of foliage; then the branches from its right side. The outer stem to the left may also be drawn after the same manner, and afterwards that to the right, with the several leading branches; those more receding can now easily be adjusted, by observing the direction in which they lean.

In a previous number I gave instructions for drawing trees, precisely after the same manner as above; but it is desirable for pupils that the method of producing outlines should be constantly brought before them.

The foliage of the nearest and central tree should have its several forms and clusters completed first; then the tree to the left; and afterwards the small one to the right, as well as the rest of them mingling behind. In the original drawing the whole of the shadows were *pencilled* in firmly and distinctly, with close and rather long lines, but the distant shades were more loosely given. In sketching from Nature, it is always as well to adopt the most ready means of producing the effect, for which I find the assistance of pencilled shadows extremely serviceable.

When the shadows are finished, and the several characteristics of the stems, with their limbs and knotty projections, are correctly placed, the colours may be introduced, by washing them in without hesitation, not being too particular to take them up to the exact markings of the outline. This, indeed, has to be avoided, to prevent stiffness or the semblance of solidity, instead of multiplicity of leafage.

In the example, the sky was washed in at the last, in order that the lights might be so placed as to render the effect agreeable, as well as valuable to the group, and give (what should always be sought) breadth. All the colours were put on in rather a liquid condition, and the brush so filled as to impart them freely, without being blotchy or overcharged. It is a good plan to try the colours first upon a spare piece of paper, to judge of the tint, and practise the manner of touching before proceeding with the drawing. This will insure a greater chance of success.

Colours to be employed,—for the

Sky—Cobalt.

Clouds—Cobalt, sepia, and a very little lake.

Foliage—Gamboge, indigo, lake; but the trees behind must have cobalt added, to give a more vapoury tone.

The colours mentioned above are to be used in combination, taking more or less of one than of the others, as the character of the tones may require.

The next subject will be a lake scene.

ON TIN.

By W. B. Lord, Royal Artillery.

IT is not our intention to use this title figuratively or in its popular sense, as by so doing we should be committing ourselves to a task which we have no intention of performing, viz., that of explaining how the "world's great main-spring" acts on the countless "wheels within wheels," which move the puppet man from pole to pole, and send him either leaping in the air or grovelling in the dust, just as the gold and silver strings with which he is bound may chance to vibrate. We shall therefore, in passing, just touch lightly on the materials from which some of these "strings" are made, contenting ourselves with "tin" in its literal sense, leaving "metal more attractive" to those who prefer its fascinations. It is both curious and interesting to trace the operation of those wise and inscrutable laws which govern the spread of civilization, and to mark how some coveted production, to be obtained only in a far-off land, sets the human tide flowing in that direction. The vast tract known as "Rupert's Land," constituting the Hudson's Bay Company's territories, might have remained for ages the hunting-grounds of the savage, had not the abundance of fur-bearing animals there discovered directed commercial enterprise to their vast stores of natural wealth, and thus, step by step, led to the important position at present occupied by those regions. The chance discovery of gold in California by Captain Sutter, and later on in Australia by Hargraves, are more recent and familiar examples of the same cause of progress; and there is no doubt that the discovery of tin in the Scilly Islands, by a band of wandering Phœnician voyagers, led to a repetition of their visits, and ultimately to the establishment of a regular trade between them and the inhabitants of the western extremity of England. We are informed that, about 600 years before Christ, Pharaoh Nechao, king of Egypt (the same who slew Josiah, king of Judah), ordered some Phœnicians to set out from the Red Sea, to go round Africa, to pass by the Straits of Hercules, to penetrate into the northern seas, and to bring him an exact account of the voyage. About this time, therefore, if not before, it is not unlikely that the Phœnicians, finding, by the voyage of their countrymen, that the western or great Atlantic Ocean was not so tempestuous and unnavigable as their forefathers had taught

them to believe, were either then or soon after tempted to undertake a northern voyage; and coasting along the banks of Spain and France might first discover the British Isles, and, upon discovery, begin to trade, which was the principal end of all their voyages. The term "Cassiterides," so often applied in old writings to the localities from which the tin was brought, appears to apply to the Scilly Islands, the coast of Cornwall, and probably to the western portion of Devon, just as though constituting one group of islands, for which, by the discoverers and early visitors, these apparently sea-girt stretches of land were no doubt taken; and it appears probable, as Bochart states, that the word Britain was derived from "Baratanac," the name given to tin in the Chaldee and Arabic languages, adopted also by the Phœnicians. It has been argued, that, as the whole of England was included under the head Britain, the fact of tin being found in such a limited portion of it could scarcely have conferred a name on the entire island and its dependencies. It must be borne in mind, however, that in all probability the Scilly Islands, and perhaps the extreme west of Cornwall, were the only portions of England visited (at least for some considerable period) by these early pioneers of commerce.

From the scant nature of ancient records on the subject, no very precise idea can be formed as to the state of civilization in which our forefathers were found on their first discovery; and however humiliating it may be to look back on the past, it is much to be feared that the official report given of the "manners and customs" of a certain tribe of North American Indians, by an officer sent on a mission amongst them, would have equally applied to the aborigines of the Cassiterides. "*Manners*," wrote he, "they have none, and the *customs* which prevail are of a very unpleasant character." Savage man—whether hunting in the prairies and forests of the Far West, roaming amongst the huge ferns of New Zealand, or, with matted hair and grotesquely painted skin, dancing a wild corroberry, demon-like in the fire-light beneath the gum-trees of Australia—can look but to one inevitable future; and whether near at hand or far off, just as surely as the arrow shot into the air returns to earth, so surely will time, trade, and civilization sweep him, step by step, from the face of the globe, to give place to new races, leaving, as ages roll on, mere scraps of tradition, buried weapons, and rude barbaric ornaments, as traces of his past existence.

The articles of trade brought by the Phœnicians, viz., salt, brazen or bronze wares (which would include tools, weapons of war and the chase), and crockery, were exchanged with the natives for tin, lead, and skins. The tin, in the form of granules and water-worn pebbles of the ore (*oxide of tin*—for, except in very rare instances, it is not found native or malleable), was obtained by roughly washing the beds of the rivulets and water-courses, much as the *tin-streamers* of the present day collect it. The marshy valleys and moorland tracks between the granite hills also yielded a rich harvest of tin to the ore-seekers, as for countless ages such spots have been the natural depositaries into which the heavy granules have been washed and drifted by the floods which have helped to break up and disintegrate the matrices in which they were originally imbedded.

So large is the quantity sometimes associated with this broken-up detritus, that we have often heard it asserted by old and experienced tin-streamers, that unworked ground had been known to yield from the space covered by an ox, when laying on it, enough tin to pay for the animal. It has, however, become extremely difficult to find tracks of tin-ground unexplored, numbers of those now undergoing treatment have been streamed before, and are, therefore, called "old men's" workings. Minute granules of gold are occasionally found associated with the fine tin, and we have seen small quills used by the men in which to hoard them. A pin with a moistened point is usually made use of to withdraw the precious particle from its baser associates. Before a regular system of underground operations were had recourse to, there is no doubt that a large quantity of ore was extracted from the soft granite formations in which minute veins or *string courses* are frequently found.

The ease with which open cuttings in the sides of hills could be worked offered strong inducements to extract the mineral in this way. Diodorus Siculus appears to have been thoroughly aware of its being thus found. "These men" (the tinners), he writes, "manufacture the tin by working the grounds which produce it with much skill; for, though the land is rocky, it has soft veins running through it, in which the tinners find the treasures which they extract, melt, and purify. Then shaping it by moulds into a cubical figure, they carry it off to a certain island lying near the British shore, which they call Ictus. For, at the recess of the sea between the islands and the mainland, the passage being dry, the tinners embrace the opportunity and carry the tin over in carts to the Ictus or port; for it must be observed that the islands which lie between the continent and Britain have this peculiarity, that when the tide is full they are real islands, but when the sea retires they are so many peninsulas. From this island the merchants bring the tin of the natives and export it into Gaul, and finally through Gaul, by a journey of about thirty days, to the mouth of the Rhone."

The source from whence this much coveted treasure was obtained by the Phœnician traders was long by them kept a profound secret, fearing lest, by its becoming known to the Romans, the trade would become too general and less remunerative to themselves. Speaking of the tin-bearing islands, Strabo says—"From these islands the Phœnicians had their treasures of tin, and were exceedingly jealous of their trade, and, therefore, so private and industrious to conceal it from others, that a Phœnician vessel, thinking itself pursued by a Roman, chose to run upon a shoal and suffer shipwreck rather than discover the least track or path by which another nation might come in for their share of so beneficial a commerce." It is said that the captain's patriotism was, on

returning to his own country, rewarded by having the whole of his loss made up to him from the public treasury.

The uses to which the tin obtained from the natives by the Phœnicians was applied were exceedingly numerous, as not only were nearly all the tools, cutting instruments, and weapons of war made of bronze (an alloy of copper and tin), but the fetters of prisoners and the mirrors of the ladies were of this material. Mention of these latter articles is made in the twenty-eighth chapter of Exodus, eighth verse—"And he made the laver of brass, and the foot of it of brass, and the looking-glasses of the women." These looking-glasses, or mirrors, were in common use amongst the early Egyptians, who usually carried them in their left hands to the temples when attending worship. On the Jewish people quitting Egypt, it is probable that they carried these mirrors, together with their little ornaments and musical instruments, with them—

> 'Mid the strings of the harps
> They hung on the trees,
> The sad wind whistled wearily.

From very early ages the Phœnicians were famed for their skill in the art of dyeing, and there appears some doubt as to whether the crimson or scarlet colour spoken of as the Tyrian *purple* and held in such high estimation by the ancients, was not produced by the use of a solution of tin, rather than from a shell-bearing mollusc, much as modern dyers use it to obtain those colours permanently in stuffs and woollen cloths.

There are several islands on the Cornish coast, from which the tin might have been shipped off as described. St. Clement's Isle off Mousehole, St. Michael's Mount, and Love Island were all well adapted for the reception of the mineral, or the ingots produced by smelting it; but the weight of evidence is in favour of St. Michael's Mount being the principal port of shipment, and the *Ictus*, referred to by early historians. Mr. Edwards, who has devoted much attention to the question, maintains, with much apparent reason, that, by an error in the translation of Diodorus, the name has been changed, and that *Iktin*—the ancient Cornish for *Tin Port*—is the true rendering. Be this as it may, there can be no question that many of the statements made by Diodorus have been fully substantiated by discoveries and investigations. The massive block of tin dredged up near St. Mawes, at the entrance of Falmouth harbour, is of such a remarkable form, and corresponds so exactly with the description given by him of that exported by the Phœnicians, that we give a translation of his account.

"The inhabitants of the Promontory of *Belerium* [the most western part of Cornwall] cast the tin into the form of *astragali*." This *astragalus* form is best understood by calling to mind the shape of a common knuckle-bone, or the cross section of the truck wheel or sheave of a block, which represents the ingot. An exact model has been deposited in the Royal College of Mines, in Jermyn Street. Its weight is 65 lb.; length, 2 feet 11 inches; width, 11 inches; and thickness, 3 inches. The upper surface is perfectly flat, and the under side of a slightly rounded or boat form, forked at each end. This would admit of their being conveniently placed on the bottoms of the boats or coracles used for their transport. The four handle-like projections would serve to carry them by, just as a hand-barrow is borne. These would also form most convenient points of attachment for the lashings of the pack-saddles, on which (in pairs) they were carried by mules or horses the thirty days' overland journey from the coast of France nearest to Britain to the mouth of the Rhone, where they were again shipped and conveyed to *Gades* or Cadiz, the great emporium of the tin trade in those days. Thus writes Diodorus, just before the Christian era, B.C. 8:—"The Phœnicians in ancient times undertook frequent voyages by sea in the way of traffic, as merchants, so that they planted many colonies, both in Africa and in the western parts of Europe. These merchants, succeeding in their undertakings, and therefore growing very rich, passed at length beyond the Pillars of Hercules into the sea, called the Ocean; and first they built a city called *Gades*, near to the Pillars of Hercules, at the sea-side, on an Isthmus in Europe." In Ezekiel, xxvii. 12, the early trade in tin and other metals is thus mentioned:—"Tarshish was thy merchant by reason of the multitude of all kinds of riches; with silver, iron, tin, and lead, they traded in thy fairs."

Homer informs us that Cinyras, king of Cyprus, presented a corslet to Agamemnon, which he wore on his departure for the Trojan war. "Next he placed around his breast a corslet which Cinyras once gave him to be a pledge of hospitality, for a great rumour was heard at Cyprus that the Greeks were about to sail to Troy in ships, wherefore he gave him this, gratifying the king. Ten bars indeed [of the corslet] were of dark cyanus,* twelve of gold, and twenty of tin, and three serpents of cyanus stretched towards the neck on each side, like unto rainbows." On the tin deposits of Britain becoming known to the Romans, there is little doubt that they at once availed themselves of the discovery, and employed the natives to mine for them; a medal of the reign of Domitian, together with implements, &c., of the early Roman period, found in an ancient tin mine, being strong evidences of Roman supervision. Improved and more extensive operations appear to have been conducted under Roman rule, and large quantities of tin were for a very long period obtained for the purpose of alloying with copper to form the bronze for which they were so celebrated. Kenrick, in speaking of it, says,—"This bronze, which is one of the oldest alloys of copper we are acquainted with, contains about ten or twelve per cent. of tin." It has been found by analysis that this is just the composition of the bronze instruments found in the sepulchral barrows of Europe, of the nails which fastened

* Lead.

the plates to the roof of the treasury at Atreus, in Mycenæ, and of the instruments found in the tombs of ancient Egypt.

The bronze coins and ornaments found by us during our researches amongst the ruins of the "House of Lamachus," in the ancient Chersonesus, are almost identical in composition with the tools and instruments discovered at Thebes; whilst the weapons of war and the chase, brought to light on opening the tumuli, with which many of the hills and breezy downs of England are covered, contain the same formula.

The Saxons do not appear to have taken a stand in Cornwall until the reign of Athelstan; and but little interest was taken in mining either by them or the Danes, and no great impetus seems to have been given to it until after the Norman conquest. A great portion of the trade was then conducted by the Jews, who, no doubt, contrived to enrich themselves almost as much as the Phœnicians had done in their day. King John appears to have interested himself in the welfare of the tin miners, and to have granted charters for the better regulation of mining operations. Edward I. seems to have aided in confirming some of the measures instituted by John, which led to the separation of the Devonshire from the Cornish miners.

The leaden seal of the ancient tinners of Cornwall, found in a field near Bath, and now in the museum of the Royal College of Mines, in Jermyn Street, was probably of this period; and from both sides being exactly alike, it has been surmised that it was struck with a view to its attachment to some important charter relating to tin mining. The two figures represent "tinners," one with a pick and the other a shovel, working in their *stream work;* the running water being indicated by the lion's head between them (not an unusual emblem amongst the old gem cutters). The legend may be thus rendered,—✠-S'COM-VNITATIS STANGNATO: CORNVBIE. No medal or seal like it is, so far as we have been able to ascertain, in existence; and how it should have found its way to the vicinity of Bath is a problem open to the curious for solution. As time passed on discoveries continued to be made, and more extensive subterranean workings conducted. Regular lodes of tin, associated with other metals, were from time to time discovered, and the extraction and treatment of their products gradually improved on; and although other countries possessed tin mines, its exportation continued to be considerable. Yet, strange to say, all the so-called tin plates (which in reality are only thin iron sheets dipped in molten tin), used in this kingdom up to 1665, were sent from Bohemia or Saxony; and although about this time an attempt was made to introduce the manufacture regularly, and one Andrew Tarranton, who was sent abroad for the purpose, succeeded perfectly in discovering the process, and manufacturing many thousands of plates on his return, superior to those imported, yet no manufactory was established until between 1720 and 1730, when the first was put in operation at Pontypool, in Monmouthshire.

The thin sheets of iron, after being rendered perfectly clean and free from adhering oxides, by diluted acids and bran water, are dipped in molten tallow, and then plunged into a bath of fused tin, which adheres to and completely covers them. Tin is a most important ingredient in the manufacture of pewter, gun-metal, bronze, &c. A vast number of small wares, such as hooks, handles for pots, tacks, &c., are coated with tin to preserve them from rusting. Tacks are tinned by first cleansing them in diluted acid, then placing them with fragments of the metal and sal ammoniac in an earthenware bottle over a strong charcoal fire. On the coating of tin being complete, they are washed and finally dried in hot sawdust or bran. Nearly all the cooking utensils throughout the East are of copper, and it is requisite, in order to avoid the unwholesome qualities of that metal, to tin their interiors.

This is done by first rubbing the surface bright, then heating it over the fire, and when sufficiently hot rubbing the fused tin with powdered resin quickly and evenly over it; a handful of cotton or linen rag forms a convenient rubber. A mineral known as *wolfram* is often found associated with the ores of tin, and from its gravity and peculiar character, being a double tungstate of manganese and iron, great difficulty was experienced by metallurgists in separating it. Mr. Oxland at last solved the difficulty by treating the ores in the furnace with carbonate of soda. A chemical change at once took place. The tungstic acid seized on the soda and formed a tungstate of soda, valuable as a *mordant* or fixer of dyes, whilst carbonic acid was set free, and the scoria or slag carried off the other elements of the objectionable compound; so chemistry steps in to aid the arts. There are a great number of sources now from which tin is obtained, amongst which may be mentioned Banca, the trade of which colony belongs to the Dutch, Chile, Mexico, Australia, Spain, Bohemia, &c., &c. The mountain ranges between Galicia and Portugal are exceedingly rich in the ores of tin, only needing commercial energy and capital to render them highly remunerative. Many of the names relating to tin and its treatment have been handed down from very remote ages to the present day. The lord or landowner's dues are still spoken of by those connected with tin mining, as his *dish*, from a dishful of ore, out of every sixth or eighth (according to agreement), measured from the pile of ore, being laid aside for his benefit. The term *Jews' house tin*, applied to the masses of roughly smelted metal occasionally discovered by the miners in old workings, was first given from the Jews having in early ages the supervision of the furnaces. The tin coinage, as it was called from the French word *coin*, a *corner*, consisted in the chipping off of one corner from each block of metal for assay, before the arms of the Duke of Cornwall were stamped on them; up to 1858, a duty of four shillings per cwt. was levied as a royalty due to the duke. This inconvenient and troublesome custom was abolished during the present reign, and a perpetual annuity, grounded on

a ten years' average, substituted. Few metals used in the arts have a wider range of usefulness than that now under consideration. The cannon which thunders forth a nation's triumph, the bells which ring out the wedding peal so joyously, or with solemn note peal the last *requiem* of the departed, are indebted to tin for their sonorous quality. The penny you cast to the crossing-sweeper, and the half-pint measure containing the porter he probably buys with it, have tin in their composition, as have the pipes through which it passed, the engine by whose mechanism it was raised, and the tap which governed its flow; the tea-kettle, too, as it sings cozily on the hearth, as if from sheer self-satisfaction at the brightness of its own burnished jacket, owes the privileged position enjoyed in the snug warm corner to *tin*, as do many human tea-kettles who have cause to sing as contentedly as he.

DESCRIPTION OF AN EGYPTIAN STATUE LATELY ADDED TO THE COLLECTION IN THE BRITISH MUSEUM.

THE statue is in gritstone, and represents a young man standing, a son of Rameses II. It is 50 inches high on a base of 6 inches. He has no clothing except the apron round his waist. The left leg is forward. Both arms and the fingers hang straight down, and they press to his sides two poles or standards as tall as himself. The head of one is a cylinder ornamented with two asps; the head of the other is a group of three small standing figures now broken, a goddess with two gods. On each standard is the name of Rameses II. (See fig. 1.) The square pillar which supports his back had been mended in two places, probably by the original sculptor. On this and on the base are several lines of hieroglyphics stating that he is the king's son. The stone is hard, and on the figure highly polished, but disfigured in two or three places by coarse pebbles.

Fig. 1.

His hair is a crop, without the large lock peculiar to the king's sons, shown in the bas-reliefs: the beard short, and now broken away. The muscles are remarkably well marked; better so, perhaps, than on any other statue of that age. The face, nose, and all the limbs are delicate and youthful; the chest wide, the waist slender, the stomach rising with a swell; the knee good, showing the division between the patella and the tibia. The ankle is less good. The nails are scarcely marked on either fingers or toes; the left thumb is too short. The right leg is badly formed, from the difficulty of reaching it with the chisel, as it is withdrawn into the recess between the standard and the wall which joins the left leg to the supporting pillar. The statue is quite perfect—except for the loss of the beard, of the three figures on the top of one of the standards, and of one of the two square pieces with which the pillar behind had been repaired, and for a hole broken through the wall which joins the right-hand standard to the supporting pillar.

The delicate youthful face is clearly meant for a portrait, but perhaps without close approach to a likeness, as the manly beard which once adorned the chin proves that some departure from exactness was allowed to the sculptor. But, nevertheless, the face, and indeed the whole figure, has less of the conventional stiffness than is usual in the Egyptian statues. The shoulders, the arched instep, the swell of the stomach, show more knowledge of anatomy than is to be seen in any of the earlier statues in the Museum; while if it is compared, particularly in respect to the legs, with the sitting statue of Oimenepthah II., which is close beside it in the Museum, we shall see that, in the very next generation, art was declining and the sculptors were falling into bad taste.

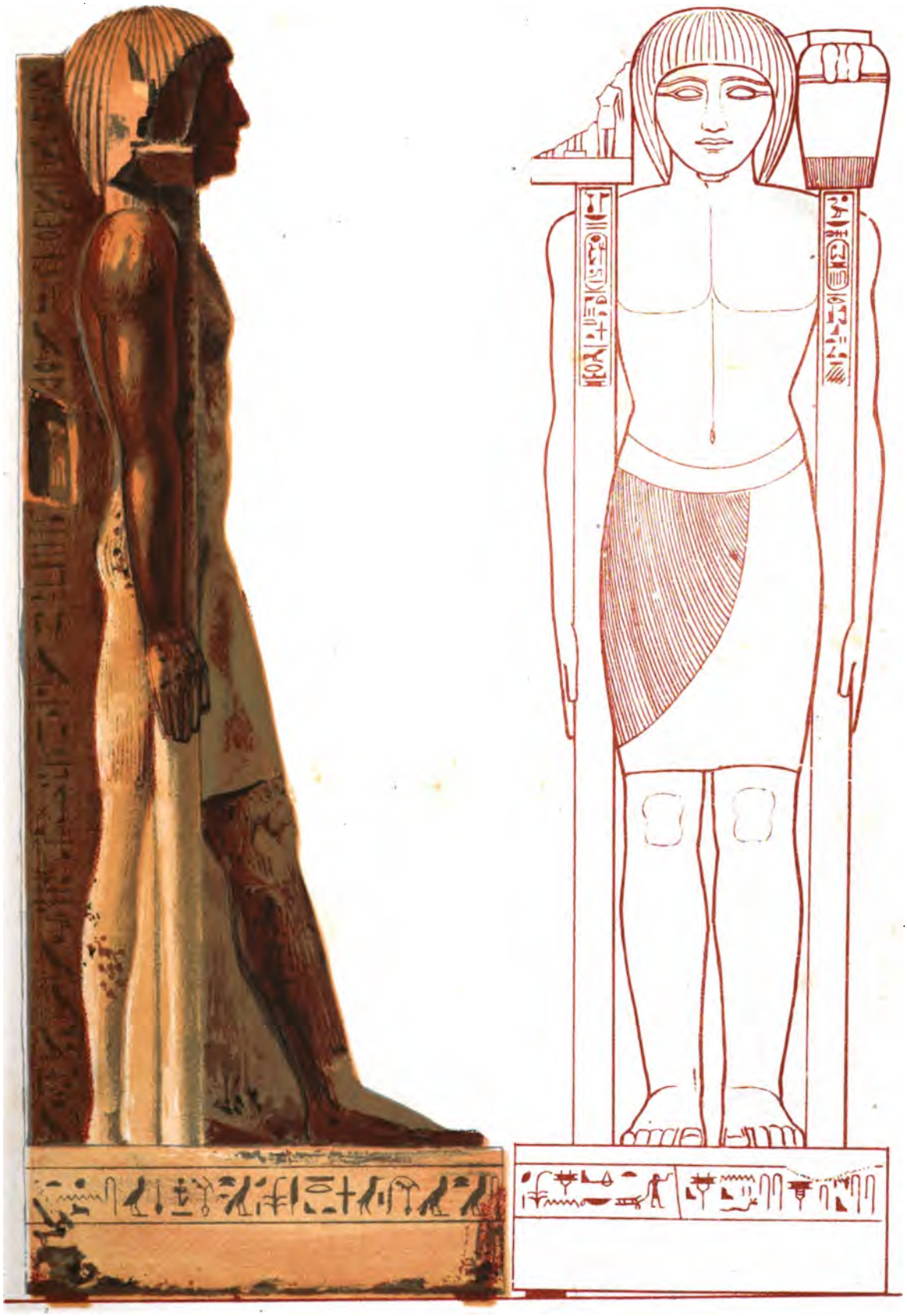
The name of the young prince is spelt with three characters. (See fig. 2.) The first is probably an anvil, in the form of two half-spheres, with the force of MES; the second is an owl, with the force of MO; and the third is a sceptre having an animal's head on the top, with an uncertain force, perhaps INE, a *hook*, as it is the crook usually held in the hand of the Egyptian gods and priests; it is still the camel-hook of the Arabs of Mount Sinai, and it seems to be the letter N in the names of the towns Mendes and Hermonthis. Hence the name of the young prince may perhaps be Mesmoine. But, as the first of these characters has had other and various forces given to it by various scholars, it may be as well to show why I think it had the force of MES. This can be done by showing that it will bear that force, and no other that we know of, in the chief places in which it is met with.

Fig. 2.

Thus, it is the first, and only disputed character, in the name of Meshophra Thothmosis (see fig. 3), which Manetho reads as Misaphris, and in that of his successor, which Manetho reads as Misphragmuthosis. Then it forms one out of a pair of titles which often precede a king's two names. (See fig. 4.) Champollion guessed that it might be a diadem, and translated the title "Lord of Diadems," because that title is met with in Hermapion's Greek translation from an obelisk. But the hieroglyphical character there meant is certainly an asp, of which we see a golden image tied

Fig. 3.

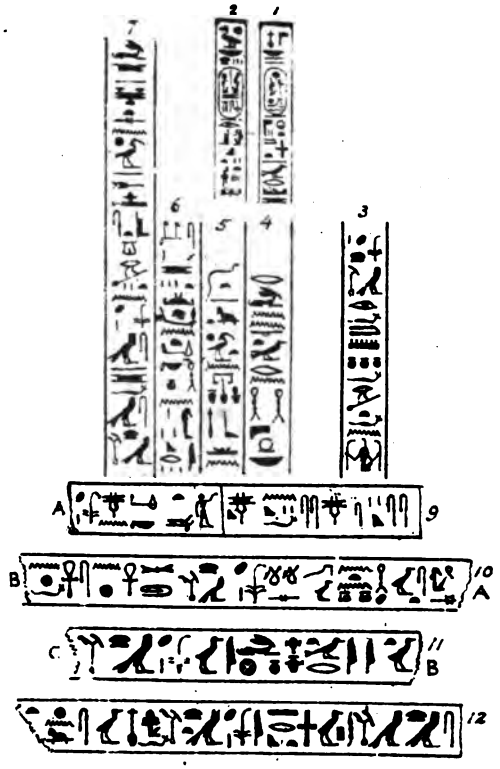
Fig. 4.



0 1 2

Scale of Feet.

L. S. OF
BACK
R. SIDE



to almost every king's forehead. Moreover, in Hermapion's translation we meet with the following words: "King, lord of all the earth (whom the Sun approved), the king brave in war (whom Ammon loves and the All-shining has tried) for a king for ever." Now it will be observed that the words here placed within parentheses are translations of the two well-known names of Rameses II., and the titles which precede them can be nothing but the pair of titles above spoken of, which invariably accompany one another. The first title, "Lord of all the earth," is Neb-to, which we usually translate *Lord of the world;* and the second may fairly be understood as being Neb-misi, *Lord of battles.* Misi is the Coptic for *battle;* hence the sound for this character, which we obtain from the name of King Meshophra Thothmosis, agrees with that which we obtain by translating Hermapion's words into Coptic. Lastly, as to what our character represents. *Emes* is the Coptic for an *anvil.* Theophilus, in his *Diversarum Artium Schedula,* iii. 10, describes the Roman anvil as in the form of three half-apples. Our character is like two half-apples; and if we suppose that the anvil was, in the first instance, a simple block of solid iron, the heavy blows upon it would soon flatten the top and make it swell out on all sides into some such form as the above. Hence we see that the three arguments agree in giving to our character the force of MES. First, its place in Manetho's names, Misaphis and Misphragmuthosis; secondly, its forming part of the group which Hermapion translates "Brave in war," which may be represented in Coptic by Neb-misi, *Lord of battles;* and thirdly, by its resemblance to an ancient anvil, in Coptic, *Emes.*

This is a long discussion upon a single hieroglyphic, but it may interest the reader to see how the force and meaning of such characters are to be learned.

Hermapion's sentence above quoted contains the very words which we find written in hieroglyphics upon the two standards held by our young prince. On the standard in his right hand we read, "The priest, the lord of the world [king's first name], beloved by the various gods of Egypt." On the other standard we read, "The son of the Sun, lord of battles [Amunmai Rameses], beloved by Osiris, lord of the region of the dead." The two names here placed within the brackets may be translated by the words quoted above from Hermapion.

DESCRIPTION OF THE HIEROGLYPHICS.

No. 1.—The inscription on the right-hand standard. It may be translated, "The priest, lord of the world [first name], beloved by the various gods of Egypt."

No. 2.—The inscription on the left-hand standard, "The son of the Sun, Amunmai Rameses, beloved by Osiris, lord of Amenti;" or, of *the region of the dead.* These two are the only lines that I venture to translate throughout.

Nos. 3–7 are on the flat top of the base. The left foot stands between No. 3 and No. 4. No. 3 begins with the young man's name, "The royal son Mesmoine."

Nos. 9–12 are a continuous sentence round the four sides of the square base.

The supporting column has six lines of hieroglyphics. No. 1, on the back, begins "Dedicated to Osiris, Ro-t-amenti, or *ruler of the place of the dead.* From this title of the god the Greeks took their name Rhadamanthus, the judge of their infernal regions. On the same line, immediately following the break in the stone, is mention of the young man's mother, who is said to be deceased. In line No. 3, on the right side of the supporting column near the bottom, is mention of his sisters, called "The Royal Daughters." But of the greater part of the inscription I do not venture to give a translation, though many of the single words are well known.

SAMUEL SHARPE.

[An acomplished correspondent has favoured us with the following notes, which we have great pleasure in laying before our readers.]

The following are the chief facts known about the prince, Shaaemuab.* He was son of Rameses II. and the queen Hesit-Nefrit, the third wife of that monarch. Shaaemuab held the important office of *sem,* or chief of the priesthood of Ptah, at Memphis, and seems to have instituted some new forms in the worship of the Apis bull. Shaaemuab was the fourth of the 111 sons of Rameses II., and enjoyed great honour and dignity amongst his contemporaries. As early as the thirtieth year, at least, of his father's reign, he was appointed Governor of Memphis, and celebrated the festivals of the god, Ptah, or Vulcan, with great splendour. The discoveries of M. Mariette, at the Serapeum at Memphis, and of the immense subterranean galleries of the mummies of the Apis bulls, show that this prince, whose mummy was found in one of the sepulchral chambers, was buried with his gold and other ornaments in one of the tombs, in the fifty-fifth year of the reign of his father, whom he did not survive. His mummy was found mutilated; but at what time, and under what circumstances, did not appear, as the plunder of the tombs was as rife in the oldest days of the Egyptian monarchy as now. The inscription is extremely obscure, and consists of the fact of an address to Osiris on behalf of the deceased prince Shaaemuab, containing certain mythical allusions to the final judgment in the Hall of Truth and Justice, and other statements scattered throughout sepulchral prayers and adorations, comparing that prince to Horus, the son and avenger of Osiris. The same observations apply to the lateral inscriptions (left and right sides), which are also obscure and difficult to understand. The inscription round the plinth or pedestal on which the statue stands, A 9, 10; B 11, 12, is the text of a well-known chapter of the Ritual, the 54th of Lepsius, Todtenbuch, Taf. xxii. c. 54, where the rubrical heading entitles it, "The chapter of giving breath to a person in Karneter or Hades." There are two other chapters, (55, 56), on the same subject, with the texts similiar to the 54th; especially the 56th, which closely resembles the inscription of the plinth. The meaning of the chapter is as follows: "Oh Tum or Tomos, the setting Sun, give me the sweet breath of thy nostril. I am the great elder who

* It will be observed that our friends differ in their interpretation of the hieroglyphs denoting the name of the person represented.—ED.

dwells in Unnu. I have watched the egg of the great cackler or goose of the god Seb; I grow, it grows; I live, it lives; I breathe, it breathes." This same mystical form is found on a statue of Senmut, an officer of the court of Thothmes III., in the Berlin Museum, and is often repeated on sarcophagi and other objects, apparently in reference to the reanimation of the dead. The mystic meaning here hidden, unless it be an allusion to the mundane egg of the Orphic writers, is unknown.

[The learned curator of the Soane Museum, Mr. Joseph Bonomi, F.R.S.L., F.R.A.S., has kindly offered a few remarks of which we gladly avail ourselves.]

The front and profile views of the statue are not such as would be conveyed to the mind through the eye, but they are what architects call geometrical elevations drawn by actual measurement, so that the dimensions of any part may be known by application of the compasses to the scale.

The front elevation is in outline, for the greater facility of measurement, and the profile gives the precise colour of the stone, which is a conglomerate, in which flints and pebbles occur cemented together in nature's workshop by sand and rust of iron.

Notwithstanding this very adverse material, it has been fashioned into the figure of a man, and may be considered one of the best specimens of Egyptian sculpture in our national collection. In the general contour, the figure resembles very much the inhabitants of Lower Nubia; as does the colour of the material, particularly the head and arms, the complexion of the inhabitants of Thebes. For this purpose, and for its durability, it is supposed, this description of stone was chosen. The features are well defined, and the countenance has nothing of the African type,—a circumstance which goes far to corroborate the notion which has lately been entertained of the foreign origin of the family of Rameses. The arms are well formed, and the fasciculi of the deltoid, arising from the acromium scapulæ, better defined than in any other Egyptian statue in the Museum. The hands are rather small. The left leg is advanced in the attitude of marching, with which leg, it may be observed, it is to this day customary to make the first step. The knee of this limb is particularly well formed. The ancle is rather thick, and the foot heavy; the instep exceeds a little the height prescribed by the canon in use at the period, that is to say, one-nineteenth of the whole height of the figure.

It may be interesting to the reader to know how the inscriptions on the statue have been so faithfully given in the accompanying plate. The first operation was to obtain, by means of wet absorbent paper, an impression of each legend or line of hieroglyphs. This was afterwards faithfully copied by reduction according to scale; and this drawing, being handed over to the photographer, has been unerringly copied by the rays of the sun, and transferred to the stone.

HOLBEIN IN GERMANY.*

By H. Ward.

PART III. BASLE—*continued.*

"HANS HOLBEIN never travelled to Italy" (*nooit reisde H. Holbein naar Italie*), said his earliest biographer, the Dutchman Carel van Mander,† and his words have been repeated by others; but Dr. Woltmann declares that here again they have blundered. Let us appeal, says he, to far more trustworthy witnesses, the works of the artist, and these will speak plainly of a visit to Lombardy. This counter-assertion may be true; but Dr. Woltmann has hardly proved it. He does not point out any change in the artist's colouring; he only dwells on the increase of the old southern influence, in matters of feeling and composition, and in the modelling of the figures. He does, indeed, instance a few direct imitations; yet he allows that most of these were made from the engravings of Mantegna. The chief witness on his side is a *Last Supper*, derived from that of Leonardo da Vinci; and surely such a work as Leonardo's—the talk of the whole artist world—might well have travelled to Holbein in the shape of copies. The original itself seemed at one time destined to cross the Alps. Francis I. saw it when he entered Milan in 1515. He coveted the treasure, grudged it to the Dominican refectory, and ordered the whole upper wall to be packed off to Paris; but it was found that it would only come away in pieces. Disappointed of the painting, he tried to secure the painter; and Leonardo was at last tempted to migrate to the palace of St. Cloud, but only to die there in the king's arms, in 1519. Thus the great artist's career was limited to Italy; and she retained the crowning fruit of it; but the academy, which he had founded at Milan, must have had copies to spare for the northern admirers of the *Last Supper*, besides the one which we know to have been made for Francis I. The picture was completed just before Holbein was born; and he may have been familiar with the design from his childhood, for there were many channels through which it could have reached him. Not to speak of merchants and politicians, the Alps were then pretty

* *Holbein und seine Zeit:* von Dr. Alfred Woltmann. Erster Theil. Mit 31 Holzschnitten und einer Photo-Lithographie. Leipzig, 1866.

† Het Schilderboeck. Haarlem, 1604.

constantly crossed by German students, to and from the universities of Pisa or Bologna, and by men connected with the new art of printing. In Milan itself there were three or four German publishers between 1474 and 1520; and some of the draughtsmen, whom they employed for initial letters and title-pages, must have been quite capable of making a tolerable outline of the composition. Or, finally, Burgkmair may have brought a copy home to Augsburg, when he returned from Italy in 1508.

Dr. Waagen suggested, some years ago, that the early biographers may have been mistaken. It is not at all improbable. Our only quarrel with Dr. Woltmann is that he is so positive about the Italian trip, without showing the necessity for it. Having traced his hero fairly enough to Lucerne, in 1518, or thereabouts, and having still a few months on hand, he pushes him across the lake, and over the pass of St. Gothard, and so by Bellinzona to Milan, and shows him Leonardo's masterpiece in all the freshness of its short-lived beauty. He doubts, moreover, whether he may not take him on to Pavia, in order to study architectural painting from the façade of the Carthusian convent there. But he is content with hinting the feasibility of this scheme, and he returns with him to Basle, where he regains his better judgment.

Holbein's *Last Supper*, painted on wood, was broken up, probably by the fanatics of Basle, in 1529. Some portions were lost; but the larger ones were preserved by Holbein's true friend, Bonifacius Amerbach. They are now pieced together, and form No. 21 of the Holbein Gallery in the Basle Museum. No. 5 is an earlier *Last Supper*, on linen, which we barely mentioned in our first article. The two works naturally challenge comparison; and No. 5, in spite of its youthful defects, has been the more tenderly treated of the two. The personages, say the critics, are here more clearly, though coarsely individualized. Judas receiving the sop, is abject and self-condemned, yet unrepentant; whilst St. Peter is glaring at him, with both fists doubled upon the table. In the later work (No. 21) all the caricature is reserved for Judas. He sits on the spectator's side of the table, griping the money-bag, and displaying a harsh profile of the lowest Jewish type. Lavater* has chosen this to illustrate his ideas of sordidness. Mrs. Jameson complains that Judas is made a foul protagonist in the scene. Only eight of the other Apostles are preserved: otherwise, perhaps, he might not appear so prominent. In Leonardo's picture he is shrinking back; a more refined conception of the wretch, whose "little grain of conscience" drove him mad. Holbein has only thought of the kissing traitor, with his hard mouth screwed to desperation. Christ has just spoken the words, "One of you shall betray me," and his face and the action of his hands are manifestly after Leonardo; and so is his half-isolation on his right hand. The isolation is here effected by St. John's turning aside to repeat the words to St. Peter, who has risen, and is bending his noble head, with his hand upon St. John's shoulder. The picture is altogether a fine one, though very inferior to that of Leonardo.

Of all the works preserved in the Basle Museum, the best, according to the portrait-painter Sandrart,* is one designed apparently for an altar-piece, and divided into eight scenes of the *Passion*. Sandrart's *vivâ voce* account of it, in 1644, so moved the Elector of Bavaria, that he offered to buy it at any price; but the Council of Basle refused to discuss the bargain. Dr. Waagen compares this work with the *Basilica of St. Paul*, by the elder Holbein, and he descries a close resemblance between them, both in the execution of the parts and in their tabular arrangement. He says that one can nowhere more distinctly trace how young Holbein's style was developed out of that of his father. He is probably quite correct when he pronounces it to be a youthful work, arguing from the inequality of the composition, six of the scenes being either overcrowded or caricatured, whilst the other two are almost perfect. But he is just as probably mistaken when he detects the father's influence in the choice of colours, and in the manner of laying them on; for they have not only suffered from chemical changes, but also—as recently discovered documents prove—from restoration. Thus the arguments must be chiefly based upon the character of the designs. Dr. Woltmann considers that this, though one of the earlier, is not one of the earliest works of Holbein. Some of the compartments are very striking, as one may see from Merian's excellent lithographs. The *Arrest*, *Christ before Caiaphas*, and the *Crucifixion*, may be overcrowded, but each has a fine scenic effect. The composition of the *Entombment* is taken from that in the Borghese Palace at Rome, painted by Raphael for Perugia, in 1507. Raphael himself was partially indebted to one of Mantegna's engravings, of which he made a copy before forming his own design. But the resemblance is too close to be merely due to a common source. Holbein must have seen a copy of Raphael's picture. The dead body has been foreshortened, in order to suit the narrow compartment; but the mode in which it is borne on the shroud, with dependent arms and legs, is borrowed from Raphael; and so are the bearers, even to some details of costume. The Christ of Raphael is divine in death; that of Holbein is more distorted by suffering. Holbein's figures of the Virgin and St. John, standing apart, are comparatively insignificant; but the principal design is noble, and adapted in the spirit of a great master.

Still more noble, and far more original, we believe, is the *Agony in the Garden*. The story could not be better told. The three Apostles are sleeping in the foreground; St. Peter supporting his head with one hand, and having let a short sheathed sword slip out of the other. Round a

* "Essays on Physiognomy," vol. i., p. 186. London, 1789.

* Author of *Teutsche Akademie* in 1679.

rock in the background approaches the guard led by Judas, but not near enough to disturb the feeling of the scene. Christ is the very image of agony and prayer. The bones of his clasped hands start out, his kneeling form is bent with earnestness, and his eyes are fixed upon the sign of the cross in the heavens above him.

There is one point here worth observing, before we proceed further. The usual symbol of the agony is the cup. This was suited to the dark ages, when the scriptural figures of speech were slavishly rendered by the artist. Some of our readers will scarcely believe that the Holy Ghost, on the day of Pentecost, used to be depicted as a dove with literal tongues of fire—such tongues as the poor artist could devise; namely, so many red lines extending from the open mouth of the dove to the heads of the disciples. In those days the cup was a recognized symbol; and it was suspended in the air, without any regard to the laws of gravity. But when the later painters adopted it, they altered its significance by placing it in the hands of the angel. This converted it from a cup of bitterness into a cup of consolation. In such a shape the two ideas are quite irreconcilable; whereas the cross conveys them both, in accordance with all the traditions and sentiments of Christianity. Holbein may have followed some previous example of the Agony; but the fact remains, that he showed a finer taste than most painters, whether of Italy or elsewhere, when he made the angel floating high above Christ, and holding a cross, as a symbol both of the death to be undergone and the triumph to be achieved.

Such is Holbein's great series of the Passion. We can hardly agree with Dr. Woltmann in preferring another series, which consists of ten pen-and-ink drawings, shaded with Indian ink. They are more mature, more equally sustained, and possibly more original; though here again the biographer has to mention the name of Mantegna. Being little more than outlines, they cannot of course rival the painted series in point of effect; and we should say that they are also inferior in passionate expression. They are masterly designs for glass-painting or for tapestry; but their pictorial beauty is decidedly marred by their heavy frameworks of Renaissance columns and arches, especially in two instances where medallions are tastelessly introduced. We need not describe them, nor recommend Mechel's engravings to the reader. He has only to enter the British Museum, and turn into the King's library, and on one of the screens he will see repetitions of seven of them, all from the hand of Holbein himself.

Hitherto we have met with no very cogent argument why Holbein should have necessarily studied Leonardo at Milan. The same arguments would carry him on to Perugia to study Raphael; and if he reached Perugia, he would not have omitted visiting Florence; a fact that could hardly have escaped the notice of his early biographers. His treatment of other sacred subjects is very Italian, as might be expected: the more marked coincidences may sometimes be purely accidental. Thus, a *Nativity* is lighted by a glory proceeding from the body of the child. Correggio has a painting with a similar effect; but, as Dr. Woltmann remarks, Correggio's *Nativity* is six years later than Holbein's. The idea may have been suggested to both painters by some old illumination, or both may have taken it immediately from a certain passage in one of the apocryphal gospels. We will now conclude the subject with noticing a figure, the modelling of which the German critics derive directly from Leonardo. It is one of the many matters that can not be absolutely settled; but we are still waiting with curiosity for the opinion of Mr. Wornum.

The great physiognomist Lavater has declaimed against the figure in question with rotund pomposity. He declares that Holbein, in painting such a repulsive abomination, has "discarded all taste, forsworn all love, and disowned all humanity." Dr. Waagen retorts by saying that Lavater is a mere "Æsthetiker," unable to raise himself above the prejudices of sentimentalism. Now, Lavater is too solemn, no doubt; still he is not quite wrong. Holbein's *Dead Christ* must be something to be shuddered at. The picture is life-size, and said to be wonderfully real. Holbein was essentially a realist; but his extraordinary strength of mind and his native instinct for beauty generally kept him above vulgarity and apart from all that is horrible. It was impossible that he should paint a sickening work of butchery, such as the old German miniaturists made out of the scourging of Christ. But we think that, for once, he has been untrue to the feelings of high art. Even in Mechel's engraving, the *Dead Christ* is almost too painful. It is the corpse of a man who has died a violent death—every muscle made convulsively distinct, the toes cramped, and the fingers distorted—lying alone and almost naked, as if he were uncared for, under a low vaulting. There is nothing about him to remind one of our Saviour, except the marks of the spear and the nails. It is evident that he is stretched upon a surgeon's table, though Holbein has placed a little drapery upon the board. In fact, he had made such an admirable study, that he was seduced into making a finished picture of it, and adding the inscription, "*Jesus* Nazarenus Rex Jud. H. H. 1521."

We admit that we have been very serious this month; but our next and concluding article will be much more chatty, and deal with the personal character of the artist and his friends at Basle. We shall only have to give a detailed notice of one painting; but that one is the Madonna, painted for burgomaster Meyer, which is said to be suggested to every German by the mention of the name of Holbein.

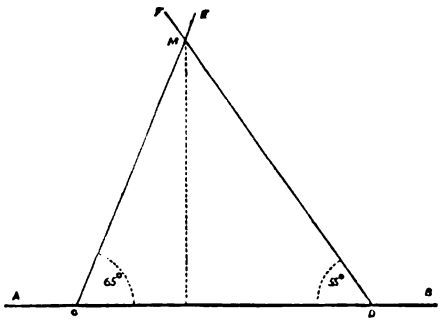
THE METEORIC SHOWER OF NOVEMBER, 1866.

By J. CARPENTER, of the Royal Observatory, Greenwich.

WE should do Nature poor justice if we were to consecrate all our lays and devote all our attentions to those of her works and wonders that are comprised within the area bounded by the surface of the little globe we inhabit, to the exclusion of those grander creations and more sublime phenomena that are to be witnessed in the boundless space above and around us. A fitting opportunity for breaking new ground is offered by the beautiful and seemingly marvellous display of celestial pyrotechny which attracted so large a share of public attention on the night of the 13th of November last; and we take advantage of the occasion to mingle in our columns the researches of the naturalist with the observations and inductions of the philosopher.

It may be thought that the numerous accounts of and comments upon this meteoric shower which appeared in the daily newspapers at the time have exhausted the subject, and that hence there is no more to be said concerning it. But a newspaper communication is an ephemeral production—read one instant and forgotten the next; and, moreover, much as has been said in this form concerning meteors, a great deal has been left unsaid; and we have, therefore, no fear of not finding "ample room and verge enough" for the few remarks it is our pleasure now to lay before the reader.

Our talk is to be of meteors. What, then, is a meteor? In popular parlance, it is known as a "shooting" or "falling" star, and in very many minds an impression prevails that when these bodies are seen to dart across the sky, some of the fixed stars have really "shot from their spheres;" we have more than once been asked by innocent querists why the stars are called *fixed*, when every now and then they are seen to fall? It is, therefore, necessary to inform all who have a notion of this sort in their minds, that there is no connection whatever between shooting stars and the fixed stars of the firmament, and that there is nothing whatever in common between them. The fixed stars are stupendous suns like ours, possibly the centres of planetary systems, billions of miles distant from us; while shooting stars are tiny little bodies, varying from a few grains to a few pounds in weight, and, comparatively speaking, only a few miles above the earth's surface. Do you wonder how their height is measured? We will endeavour to show you. Those who have brought a little trigonometry away from school with them will not require to be told that the angular altitude of a meteor, observed at two distant stations, is all that is required for the purpose of determining its height. The principle of the means by which this is effected may, however, be made intelligible without much geometry. Suppose one observer at London and another at Brighton simultaneously observe a particular meteor. Suppose the observer at London estimates its angular altitude at 65 degrees above the horizon, while the one at Brighton estimates that altitude at 55 degrees. Now, if upon a base line, A B, we



measure off a part, C D, upon any convenient scale (say an inch to 10 miles), which shall represent the distance between London and Brighton; and if we draw a line, C E, inclined to the base line at an angle of 65 degrees, and another line, D F, inclined to the base line at an angle of 55 degrees, they will meet or intersect at a point, M. Then, if we drop a perpendicular from M to the base line, the length of this line will represent the height of the meteor, upon the same scale as that which we chose for our base line. By means analogous to this the heights of a large number of meteors have been at various times determined, and it has been found, within very small limits of error, that the average height of meteors at the middle of their flight is 62 miles; their height at commencement being about 10 miles greater and at disappearance about 10 miles less than this.

Falling stars, then, have nothing to do with the members proper of the starry firmament. This fact, by showing what they are not, helps in a very small degree to a knowledge of what they are. Of course, a lot of theories, more or less fanciful, have been proposed to account for them. They have been supposed, since they are known to make their appearance within our atmosphere, to be the result of some sort of gaseous exhalations to which that atmosphere gives birth; they have been held to be of electrical nature, something like electric sparks; they have been thought to be darted to the earth from the sun; and for a long time they were held to be small fragments of matter ejected from the volcanoes of the moon. But each and all of these hypotheses involved conditions that the meteors do not fulfil; and hence, one by one, they have been abandoned. The generally received theory of the present day, and it is one which is satisfied by all the phenomena which these bodies present, is that they are small masses of cosmical matter circulating

about the sun—tiny little planets, in fact,—and coming at times within the earth's atmosphere; sometimes falling to the earth in the form of those mysterious, half metallic, half stony little masses that we call aërolites.

But if they be mere lumps of metal and stone, why do they shine out with such star-like brilliancy? Are they always in a burning state, or do they take fire only when they come within our atmosphere? The latter is undoubtedly the case; the earth's atmosphere is the cause of their inflammation. It would seem at first sight probable that this combustion had a chemical origin; that the meteors were composed of some highly inflammable matter which is ignited by combination with the chemical components of the atmosphere. An idea of this kind prevailed some years ago, but it is no longer necessary to resort to such a supposition; for the ignition of the scraps of meteoric matter is amply accounted for by the mechanical theory of heat, according to which that ignition is a consequence of the immense resistance the bodies meet with in our atmosphere, and hence of the enormous friction and consequent heat produced thereby. Upon this point we cannot do better than quote the words of Dr. Joule, one of the famous exponents of this beautiful theory of mechanical heat. Our extract is from a lecture delivered at Manchester some twenty years ago, when this theory was first dawning upon philosophical minds:—

"From the velocity with which shooting stars travel, there can be little doubt that they are small planets which, in the course of their revolution round the sun, are attracted and drawn to the earth. Reflect for a moment on the consequences which would ensue if a hard meteoric stone were to strike the room in which we are assembled with a velocity sixty times as great as that of a cannon ball. The dire effects of such a collision are effectually prevented by the atmosphere which surrounds our globe, by which the velocity of the meteoric stone is checked, and its living force converted into heat, which at last becomes so intense as to melt the body and dissipate it in fragments too small, probably, to be noticed in their fall to the ground. Hence it is that although multitudes of shooting stars appear every night, few meteoric stones have been found, those few corroborating the truth of our hypothesis by the marks of intense heat which they bear on their surfaces."

It seems anomalous that so soft and subtle a bed of matter as the air presents, especially in those exalted regions, should offer such a powerful resistance as to strike fire from a body coming into collision with it; but the anomaly vanishes when we bear in mind that this resistance is proportionate to the velocity of the body's flight, and that this velocity, in the case of meteors, is upon the average about thirty miles in a second of time—a speed almost beyond human conception. Suppose, for example, that a meteoric stone six inches in diameter dashes into our atmosphere with a velocity of only eighteen miles in a second; and suppose the atmosphere at fifty miles high to be 100 times less dense than at the earth's surface. The resistance offered would be equal to a pressure of at least 52,000 pounds; and if the stone travelled twenty miles with this resistance before it, sufficient heat would be developed to raise seven millions of pounds of water one degree of temperature. The greater part of this intense heat is communicated to the displaced air, and hence the stone may be said to be in a sort of hot blast furnace. If only the one-hundredth part of the developed heat be received by the stone, it would still be more than amply sufficient to fuse and dissipate any materials of which it may be composed.

We have here an example of one of those beautiful "provisions of nature" with which the universe is filled. "Were it not"—we are again quoting Dr. Joule—"for the atmosphere which covers us with a shield, impenetrable in proportion to the violence it is called upon to resist, we should be continually exposed to a bombardment of the most fatal and irresistible character. To say nothing of the larger stones, no ordinary buildings could afford shelter from very small particles striking at the velocity of eighteen miles per second. Even dust flying at such a velocity would kill any animal exposed to it."

Question begets question when we cross-examine inexhaustible nature; and we are prompted to inquire what is the nature and composition of these celestial fireworks? By analysis of their light, by means of the prism, we find that the burning matter is sometimes of a metallic and sometimes of an earthy or stony nature, and this in a measure identifies them with the stony-metallic masses that we know to have fallen from the skies. It is pretty well established that there is a close connection between meteors and aërolites; the one class of bodies merging imperceptibly into the other; and, therefore, in analysing the aërolite we may reckon upon gaining at least a probable knowledge of the constitution of the meteor. Chemists and mineralogists have frequently and with great care analysed aërolites and meteorites, and they have found that their composition is nearly always the same. Their structure, microscopically examined, shows them to be composed of minute globules, which suggest the idea of an originally vaporous condition; and their component matter is identical with that of earthly rocks and minerals. Sulphur and carbon, silica and alumina, iron—metallic and magnetic,—with other metals, such as nickel, cobalt, manganese, tin and copper, have been recognised among the materials of which they are formed; but—a fact striking and significant—no new material, no substance unknown upon the earth has ever yet been detected among the elements of their composition. Such a fact points to a unity of composition in some at least of the members of our planetary system, and favours the supposition of a common origin to all that family of bodies of which the sun is the grand centre and chief.

We will pass now to the consideration of those periodic displays of meteors, that, from the abundance in which these bodies manifest themselves on

such occasions, have received the name of "Star Showers," and one of which we have so lately, and under such favourable circumstances, had the good fortune to witness. It is well known that there are certain nights in every year that are remarkable for the regular recurrence of large numbers of shooting stars; perhaps the most famous date being the 10th of August, when, according to the Irish legend, Saint Lawrence sheds his fiery tears. The next important date is comprised between the 11th and 14th of November; and it is with the shower of this period that we are specially concerned. A cursory examination of the long lists of meteor records that have been collected from the histories of past times and of all countries, does not fail to show that, whereas a display more or less important takes place *every year* between the above dates, there are yet *certain years* when, according to these ancient records, the display reaches an extraordinary magnitude and the meteors appear in stupendous numbers. One of these occurred in the year 902, when the Aghlabite King, Ibrâhim bin Ahmad, died, and "the stars scattered themselves like rain to the right and to the left." Another is recorded in the year 934; another in 1002; and another in 1202. The chronicles of the Kings of Portugal make mention of another in 1366, which so terrified the people of that country that they thought the end of the world had come. The all-recording Chinese tell of others in the years 1533 and 1602. In 1799 occurred the brilliant shower witnessed by Humboldt and Bonpland at Cumana in South America, and so well described by the former in his *Relation Historique*. The year 1832 is also marked by a shower which pioneered the splendid one of the following year: this latter is the last great meteoric display preceding that which we have so lately observed.

Now it became evident, upon close examination of those and other such-like accounts, that grand November displays take place three times in a century, or at intervals of about 33 years apart; and the last having happened in 1833, it was reasonable to expect a return in 1866; but inasmuch as each of the former great showers appear to have been anticipated by a slighter one in the year preceding, observers anxiously watched the night of the 13th of November, 1865, for this precursor, and were rewarded by a sight which, although far below that of 1866, was still extraordinary; about a thousand meteors being counted between midnight and five o'clock the following morning.

This may be a proper place to put and answer the questions, why these showers occur on particular days of the year? and why such an extensive display should take place every 33rd November? It is assumed, and there are very good reasons for admitting the correctness of the assumption, that there are a number of concentric rings of these meteoric bodies circulating about the sun; orbits, in fact, every part of which is thronged with meteoric particles. The earth, in its annual course about the sun, cuts through these rings on certain days of the year, that is in certain points of her orbit, and this explains the annual recurrence of showers on certain days. The majority of the rings, of which there must be a goodly number, have the meteoric particles distributed evenly throughout their circuit; but the November ring—the ring we cut through every November—is not of such equable density; for its component particles and masses are very thickly clustered in one part, and scantily dispersed over the remainder. This November ring has been made the subject of a great deal of research; and what astronomers call its "elements," or its dimensions, position, &c., have been determined with considerable accuracy. In size, it has been found to be slightly less than the orbit of the earth; revolving about the sun in a period of 354 days, or 11 days less than the earth's period. The direction of its motion is opposite to that of the earth, and the orbit is inclined to the earth's orbit by an angle of about 17 degrees. The portion of the ring which constitutes the thick cloud of bodies, is about one-fifteenth of its circumference, or in linear measure about 40 millions of miles, while the breadth of the cloud is about 100,000 miles. The disposition of things and the course of matters which produce the periodic grand displays, may be made intelligible be the following diagram.

In this diagram the continuous circle represents the orbit of the earth, and the dotted ring the zone of meteoric bodies, with the cloud of them collected at one part of it. The earth is going one way (indicated by an arrow) and the ring of meteors another (indicated by an opposite arrow); and the orbit of the meteors is inclined to that of the earth. Now, it will be plain that if the ring moved at exactly the same speed as the earth, we, the earth, should meet it at the same point of its circuit every year; but as it moves faster than the earth, it is equally plain that the part which we cut through in one November has gone by 11 days before we come to the point of intersection in the next November, and hence we perceive that we cut the ring every year in a new place. In the course of years we naturally fall in with the thick part of it, and then it is that we get the great meteor showers; this encounter taking place every 33 years. The reason why we have showers on two or three years at the end of every 33-year

cycle, is because the cloud or group of particles is so large, that after we have pierced it in one place one year, it has not got completely out of our course by the next year, and so we meet it again and pierce it in another place: it does not get out of our way in the eleven days' grace we give it.

We, then, dash into the midst of this crowd at the rate of 18 miles a second, and its members fly on all sides around us with a flight of the same speed. The reader will now be prepared to understand why all the meteors in any particular shower seem to stream from one point of the heavens—the "radiant point," as it is termed. It is because this point is the part of space towards which the earth in its orbital course is moving; and the meteors appear to come from it, just as, if we were walking through an avenue of trees, the individual trees would appear to be coming from the end of the avenue; or as, if we were running through a crowd, all the people composing it would seem to be coming *from* the direction of the spot *to* which we were going. The "earth's way," as the direction of the earth's motion is termed, at the time of the November displays is in a line with a star in the constellation *Leo*, and hence all the meteors on these occasions seem to radiate from that star.

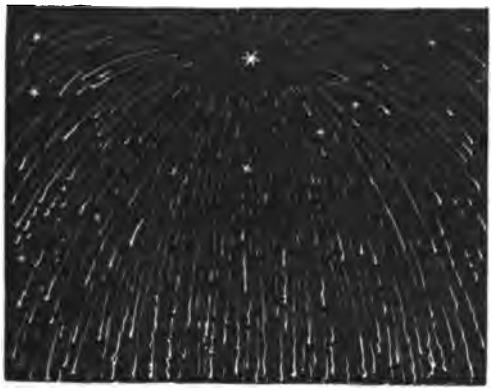
It is time we said a few words upon the particular shower which has called forth this article; but there is little to be added to what we have already written, save in the way of mere description. Those who had the good fortune to observe the shower will not want a detailed account of the appearance the meteors presented; and as those who did not witness it can gain a far better notion of their appearance from an illustration than from any word picture we can paint, we have prepared a chromo-lithograph in which we have depicted, as truthfully as possible, the aspect of a region of the sky—the north-west—at an instant when the meteors were at the thickest of their flight, which was at about a quarter-past one in the morning of the 14th. A more "sensational" picture might have been produced by the insertion of a larger number of meteors; but this would have entailed a sacrifice of truthfulness, for not more meteors than we have shown were at any one instant visible in any area of the sky equal to that included in our illustration, although quite as many as we have included actually were seen. Of course it is impossible to reproduce by any art-process the glowing brilliancy of a luminous body, like the bright nucleus of a meteor; the soft radiance of the trains of the meteors, also, shining with their greenish-blue light, can scarcely be adequately represented in a drawing.

It was a rare coincidence that in the cloudy month of November, a clear night should happen on the occasion of an event that occurs once only in 33 years. The previous night was hopelessly cloudy; had the shower occurred then, as was partly anticipated, it would have passed unseen—in England, at all events. The morning of the 13th also gave little hopes; it was only as the afternoon wore on that the clouds broke up and dispersed, and the chances of seeing the display bore a favourable aspect. The evening, with a few exceptional intervals of cloud, was superbly clear; but during the early hours, there was little to indicate the advent of the spectacle that the later hours were to bring with them. From nine to eleven o'clock only 25 meteors were noted: not more than would be seen on any ordinary November night. But when, at about the latter hour, the constellation *Leo*, the throne of the radiant point, came above the horizon, it was evident that a celestial sight of no ordinary character was to be expected. First, at the rate of about one a minute, afterwards at the rate of four or five, the fiery shafts silently flew forth in all directions from their common point of departure; now horizontally and straight as Euclid's line, now vertically upwards like an earthly rocket, now downwards in a graceful circular curve. Thus, between eleven and twelve o'clock, 168 meteors appeared; but it was not until after midnight that the display commenced in earnest. The average number of meteors per minute up to that time did not exceed three; but by half-past twelve this average rose to 70, or more than one a second. Then there was a lull for a few minutes, and after that, the numbers steadily increased, till the average stood at 118. Then clouds came on and threatened to put an end to the scene; but they cleared off after a few minutes, and at about a quarter-past one the maximum of the shower was reached: the average at that time being 122 meteors per minute.* Whether a greater average occurred during the slight interval of cloud, it is of course impossible to say. From this time the numbers rapidly declined, till, after a few short spurts of greater numbers, the average fell to 70 per minute at half-past one, 50 per minute at a quarter to two, and 20 per minute at two o'clock. At half-past two again a slight spurt increased the average for a minute or two, and at three o'clock it stood at 10. Still it decreased until between four and five a.m., when only 40 meteors in all were counted.

The whole number registered at Greenwich throughout the entire display, amounted to 8,485. Allowing for the cloudy moments, we may say that the total number of meteors passing over the sky of Greenwich, from nine p.m. on the 13th to five a.m. on the 14th, was about 10,000. Now from this it is evident that, grand as was the phenomenon, it must have been very far short of the sublimity of previous showers. Admitting the possibility of exaggeration in some of the ancient accounts, such as that of the shower of 1366, in which we are told "that the sky and air seemed to be in flames, and even the earth appeared as if

* The numbers we give are those determined at the Royal Observatory, Greenwich, where every care was taken by an organised system of observation, in which nearly a dozen observers were employed, to secure as accurate a record as possible of the various phases of the shower, and of all data it might afford. The hours we have cited refer to Greenwich mean time.

ready to take fire," we cannot admit exaggeration in such an account as that of Humboldt, of the shower of 1799, in which it is stated, amongst other illustrations, that, "from the beginning of the phenomenon there was not a space in the firmament equal in extent to three diameters of the moon, that was not filled at every instant with falling stars." Again in the year 1833, the meteors were compared in numbers to snow-flakes in a snow-storm at the thickest part of the shower; and when their numbers had considerably diminished, it was reckoned that 34,000 passed over the sky in the course of an hour. One observer gave a sketch of the appearance of them, of which sketch the accompanying cut is a copy.



Whether the comparative poorness of *our* shower is to be attributed to the thickness of our atmosphere, shutting out of view the fainter meteors; or whether we did not pass through the thickest part of the meteor cloud while the radiant point was above our horizon, we cannot say. It has been suggested by one authority on this subject, M. Coulvier Gravier, that we may expect the real maximum of the 33-year epoch in the November of the year we are just entering, 1867. Perhaps the reader will deem it worth while to "make a note of" this in his or her diary.

The meteors themselves were not so imposing in magnitude as some that have shown themselves on former occasions. The greater number of them were about equal to stars of the first and second magnitude; comparatively few of them attaining a brilliancy equal to that of the brighter planets Venus and Jupiter. Their colours varied slightly; the majority were of a yellowish-white, while some bore a bluish and others a reddish tinge. The most beautiful of their features were, as usual, the luminous trains or streaks that marked their path through the air. Some of these trains extended to 90 degrees in length, and a few of them remained visible for several seconds after the extinction of the nucleus: they were mostly of a greenish colour, and, in one or two cases, after they had disappeared a smoky trail remained behind for several minutes and then gradually dissipated. These trains have been thought to be mere ocular deceptions, arising from the retention of the image of the meteor on the retina of the eye, upon the same principle as a lighted stick quickly waved before the eye gives us the impression of a continuous line of light; but this idea is now given up, and it is generally assumed that the train is composed of tiny particles of the dissipating meteor left behind in its rapid course through the air. Even this explanation is, however, open to a little doubt.

But we have passed our allotted limits of length, so we must bring our gossip to a close. If Mons. Coulvier Gravier's supposition mentioned above be correct, we may have a better shower to talk about next November; if this does not "come off," we may rest assured that we have seen the last meteoric display that is likely to occur for the next 33 years. The year 1899 will witness the recurrence of the event, and, as this is the season of good wishes, we cannot do better than wish every one who has perused these columns health to see it.

ART NOTES FROM PARIS.

By G. W. Yapp.

THE artists of France have just performed an important electoral duty, namely, the choosing of two-thirds of the Admission Jurors for the Fine Art department of the Exhibition of 1867. The original arrangement was, that one-third should be elected by the Academy of the Beaux-Arts, one-third by those artists who had received a first-class medal or its equivalent, and the remaining third by the Imperial Commission; but the Academy has not yet forgiven the Government for taking from it the management of the School of Art and the annual Exhibitions, and positively declined to have anything to do with the matter—the Academy would be Cæsar or nothing!

This being the case, the Commission turned over the Academy third to the general body of decorated artists and medalists, and the result is such, that no one can have any just reason to complain. It must be premised that each artist voted only for the Jurors in that department in which he had gained his own honours, the painters in that of painting only, the sculptors in that of sculpture, and so on. The number qualified to vote was about four hundred, and those who did not find it convenient to attend personally were allowed to send sealed voting-papers under cover, with their names, to the superintendent of the Beaux-Arts, who is at the head of that department of the Exhibition. The number of votes recorded were, of painters 147, sculptors 70, architects 33, and engravers 25; in all 275, which, making due allowance for absentees, cannot be considered a small proportion. The number of Jurors to be elected, two-thirds of the whole, were, in painting 16, in sculpture 10, in architecture, in engraving, and in lithography, 6 each. The following names of the painters elected by their peers will show how this experiment in self-election has succeeded:—Baudry, Bida, Breton, Brion, Cabanel, Couture, Français, Fromentin, Gérôme, Gleyre, Hébert, Ingres, Jalabert, Meissonier, Pils, and Th. Rousseau. This list includes several members of the Academy, all the professors in painting of the École des

Beaux-Arts, representatives of the Old School as well as of the New, and artists in all styles, history, genre, and landscape, classic as well as picturesque. The other lists are as strong in good names, or nearly so, as that of the painter Jurors. The Government nominees are principally officials connected with arts, connoisseurs and literary men, amongst whom are the Marquis Maison, M. P. de St. Victor, M. Ad. de Beaumont, Vicomte H. Delaborde, M. Charles Blanc, M. de Longpérier, M. Théophile Gautier, and M. Soulié, keeper of the gallery of Versailles.

The Imperial Commission has revised its regulations concerning the admission of works of art in the most liberal spirit; instead of requiring works to be sent in during the month of October last, artists are to make application in writing, giving title and description of their works, which, when known to the juries, will be admitted or rejected without previous displacement, the decisions to be made by the end of the present year. Those works admitted on written application will not have to be sent in till the 25th February, and those which the juries desire to examine previously, by the 20th January. The artists are well pleased, as they should be, with these arrangements; the only subject of complaint is the comparatively small amount of space for the art productions of France during the last eleven years. The space is certainly not too large, and the sifting must be severe, but even the *Champ de Mars* will not accommodate the whole world of art.

It must be explained that the juries mentioned above are only for admission of works, not to award the prizes; the appointment of the prize juries has been deferred by decree until the others have finished their duties.

Those who are not accustomed to large galleries will be surprised perhaps to hear that the famous Louvre does not contain more than two thousand pictures; of these 560 belong to the Italian, 620 to the German and other Northern Schools, 700 to the French, and 25 to the Spanish School. Amongst the works of the Great Masters are 12 by Raphael, 3 only by Correggio, 18 by Titian, 13 by Paul Veronese, 9 by Leonardo da Vinci, 8 by Perugino, 22 by Rubens, as many by Vandyk, 17 by Rembrandt, 40 by Poussin, 16 by Claude, and 11 by Murillo.

The Raphaels will presently be increased by the appearance of a picture which has gone through strange vicissitudes: the work represents *John the Baptist* as a boy, seated on the trunk of a tree, with the right arm raised, and the legs apart. The picture has been much injured and retouched, but the face is said to be intact, and such as no one but Raphael could paint, the drawing and expression full of force and elegance, and the landscape superb. It was engraved by Valée, and is also to be found in Landon's work, No. 324. Passavant says that it was given by Louis XVIII. to a village church, but being injured by dampness it was returned to the Duc de Maillé, who had placed it there by the king's orders; after the death of the duke his heirs found it in a loft, and knowing nothing about it, let it go with a lot of lumber, and it was sold for fifty-nine francs to a picture-dealer, who soon discovering the pearl he had picked up, had it repaired, and offered it to the Government for 60,000 francs; it was, however, claimed as belonging to the State, the dealer only receiving a sum equal to the price he had paid for the work, and what he had expended upon it, and restored to the Louvre—where it has actually been lost for nearly forty years. Such is the account of the recovered Raphael, and it is curious enough to be true.

The Louvre has made another acquisition: an English picture presented by a French amateur, M. Callon, and signed G. Ferguson, 1610; the first, it is said, of our School in the gallery, though we think we remember seeing one, if not more, by Bonnington, but perhaps he is classed as a naturalized French artist. The subject of the picture in question is *Dead Poultry and Game*; we could have wished something a little more classical, and yet where could the Louvre have obtained a Reynolds or a Gainsborough? Little could G. Ferguson have dreamed of the honour that awaited him and his fowls, two centuries and a half after the latter had been made objects of art.

The great vase from Amathus, supposed to be the only remaining relic of the famous temple dedicated to Venus, has been placed in the gallery of Egyptian and Ninivite antiquities; it is an immense amphora, about six feet high and ten feet in diameter, hewn out of a block of coarse-grained stone, and bears strong marks of antiquity; the form, though imperfect, is not ungraceful, and there are traces of ornament about the handles. As an object of art it certainly is not remarkable, but it is very old and probably unique, and likely to remain so.

The Louvre is busy preparing for the Exhibition year; the galleries of ancient sculpture have been closed for a considerable time; the frescoes in four of the rooms, executed by Romanelli in 1660, are being restored by M. Balze, and a fifth is being decorated by M. Matout and M. Biennoury. A fine and highly decorated room in the new Louvre is being prepared for the larger works of the old French masters, Lebrun, Poussin, Lesueur, and others; and the grand staircase, which will eventually form a principal way to the galleries, is being constructed, but it is doubtful if this work will be completed for the coming year. The reconstruction of the further end of the great picture gallery, and of the rest of the river front which connects the Louvre with the Tuileries, is proceeding with extraordinary rapidity; in the latter portion will be the new *Salle des Etats*, in which the Sovereign meets the members of the two legislative bodies at the opening of each session; and when this is finished the present *salle* in the new Louvre will be devoted to pictures. The *Pavillon de Flore*, the corner of the Tuileries on the river side, is nearly finished, as regards the exterior, and both this and the two faces of the new gallery adjoining are profusely decorated with sculpture.

The sculptural work of the façade of the new Opera house is just commenced, and this and other parts of the building will give employment to an immense number of artists, including some of the most eminent in France. Besides the grand composition of the entablature, the principal façade will be decorated with medallions of Cimarosa, Pergolese, Bach, and Haydn; seven busts in bronze gilt are to be placed in bull's-eyes, Mozart occupying the central place with Beethoven, Auber, and Rossini to the right, and Spontini Meyerbeer, and Halévy to the left; and on the return of the façade, busts of the librettists Quinault and Scribe. The lateral façades are to receive twenty-four busts of composers, commencing on the one hand with Monteverde and ending with Verdi, and on the other beginning with Cambert and closing with Adam. In the principal vestibule, Italian, French, German, and English music are to be represented by seated statues of Lulli, Rameau, Gluck, and Handel, the latter, though born in Germany, being, as it is said, claimed by England as her own. Every part of the new Opera house, available for the purpose, will be decorated with sculpture or painting.

The new church of the *Trinité* is approaching completion, and promises to be the most sumptuous of all the modern religious edifices of Paris; the original estimates amounted to very nearly £160,000. The sum set apart for the decorative paintings is equal to £6,000, and that for sculpture to £7,680; the tympans of the nave and the gablets have been painted by M. Jobbé-Duval and M. Barrias, the Lady Chapel by MM. Emile Lévy and Delaunay, and M. Balze has executed several works on *faïence* slabs; the sculpture has been entrusted to MM. Cavelier, Maillet, Crauk, and Carpeaux, all able artists, for the four principal groups; M. Guillaume, member of the Academy, has executed four statues; and two other sculptors, MM. Doublemard and Dantan, junior, have other commissions. Two of the most eminent artists in stained glass, MM. Oudinot and Nicod, are engaged on the windows. The Municipal Council evidently intends that the new church shall be a *chef-d'œuvre*.

But a still more important work is spoken of: the district of the Champs Elysées has no church of importance, and it is said that it is under consideration to erect, near the *Arc de Triomphe*, a Gothic cathedral on as grand a scale as any of the most remarkable edifices of the middle ages. This *on dit* has a touch of the marvellous; the Imperial Government is not very likely to undertake a work which, judging from the time the repairs of Notre Dame have taken to execute, would scarcely be completed in the present century;

besides, Gothic architecture is not the *forte* of our ingenious neighbours.

From an announcement set forth by the Academy of the Beaux-Arts, it would appear that an important work is contemplated in connection with the coming Exhibition. A lady, Mademoiselle Esther Le Clère, has, in the name of her late brother, who was a member of the Academy, founded a prize of one thousand francs for the best architectural project on a subject to be given by that body. The Academy proposes, for the session of 1867, a grand Monumental Bridge, situated in the centre of a great city; the bridge to be two hundred mètres long by thirty mètres wide, connecting an island with the two opposite quays of a river. On the island is to be a monument in commemoration of a Universal Exhibition of Industry connected with the bridge by appropriate decorative elements. The competition is confined to natives of France under thirty years of age, and will be divided into two stages after the customary manner here with respect to architectural designs; sketches are to be sent in by the 18th of the present month of December, and on the 20th they will be exhibited publicly, and the members of the architectural section of the Academy will at once proceed to select the six designs which they think best. The authors of these chosen designs will be required to send in complete plans and elevations in March next, when they will be exhibited and adjudged. The successful work is to remain the property of the Academy, but the author is to have the right of reproduction by photography or otherwise. The terms set forth above can only apply to the Pont-Neuf, which touches, as everybody knows, the point of the old island, the Paris of Charlemagne and Dagobert, and which has been for many years in a very bad condition. The project may, however, be a mere speculative one on the part of the Academy, though the commemoration of an Industrial Exhibition is certainly out of keeping with those classic principles of which it deems itself the sole conservator.

The attention paid to the applications and the history of art is quite as great as that which is devoted to the Fine Arts pure; the collection, exhibition, and illustration of objects of ancient art workmanship form in fact one of the most remarkable features of the time. The City of Paris determined some time since to establish a museum of its own antiquities, and, after some trouble, it has succeeded in purchasing, for the sum of £36,000, a place for its reception. The Hôtel Carnavalet, now the property of the City, has much artistic and historical interest of its own; the famous Abbé of Clagny, Pierre Lescot, furnished the designs, which were carried into execution by Jean Ballaut, in the middle of the sixteenth century; Jean Goujon sculptured the principal ornaments, most of which still exist, though not all *in situ*, or quite intact, and are thoroughly worthy of the artist. Ballaut's work was afterwards continued by the architect Androuet du Cerceau; and in 1634 François Mansard completed it, and took some curious liberties with the arrangement of Goujon's sculptures, part of which he removed from within the vestibule to the outer face of the building, where they still remain. The Hôtel Carnavalet was not the original name of the mansion which was built or rather begun by Jacques des Ligneris, *Seigneur de Crosnes*, and President of the *Parlement* of Paris; it afterwards passed to another family, and then into the possession of Françoise de la Baume, *Dame de Carnavalet*. But the chief historical interest is of a later date: the Hôtel Carnavalet was for many years the residence of Madame, or to give the lady her full names and honours, Marie de Rabutin de Chantal, Marquise de Sévigné, whose *salon* was the rendezvous for all the savants and wits, besides a few of the witlings, of her time.

The mansion stands in the rue de la Culture Sainte-Catherine, in the old Court quarter of François Premier, of which the now calm Place-Royale was the fashionable promenade, the Mall, the Court garden, the scene of the triumphs and flirtations, the intrigues, the duels, the insolences, and the puerilities of that gay, bedizened throng of beautiful women and brave coxcombs that buzzed around a monarch who was declared to be as great a hero in pleasure as in war, and who made one grand step in social improvement by the introduction of ladies at the royal receptions, with the gallant saying, that "a court without ladies was like a garden without roses."

This once royal quarter now shelters one of the most hard-working sections of the Paris population, and here, amid the art-workmen of the present day, will be the repository of the *chefs-d'œuvre* of their ancestors. The materials of the museum already exist in part, and accessions will pour in rapidly; the city already possesses some curious collections, ancient plans and pictures, medals and antiquities, and a special bureau has been established at the Hôtel-de-Ville for all business in any way connected with art, ancient and modern. The municipal authorities paid not long since 35,000 francs for the Legras collection of leaden medals, badges, and tokens. We shall watch the growth of the Retrospective Museum of Parisian Art with much interest.

It is said that many illustrations of Paris Art, now in the museum of the Hôtel Cluny, will be transferred to the Hôtel Carnavalet, and they will scarcely be missed from the former which overflows with riches and increases them daily. It has just received a very valuable legacy: M. des Mazis, late of Mayenne, has left to the Cluny Museum a large collection of the artistic iron-work of the sixteenth century, including many beautiful damascened coffers. The same gentleman has left a fine collection of arms to the Museum of Artillery, and a magnificent silver-gilt plateau, decorated with enamels. M. Mazis's museum was estimated to be worth more than a million of francs.

The restoration of the old château of Saint Germain, and the intention of forming there a museum of Gallo-Roman antiquities, has already been alluded to in our columns; and another historical museum is about to be formed at Pierrefonds, the famous ruin near Compiègne, which has been restored by M. Viollet le Duc. The latter will probably be devoted to gallic art of the Middle Ages, and thus form a continuation as it were to the museum of Saint Germain. The magnificent collection of arms and armour belonging to the Louvre and to the Emperor's private museum has already been sent to Pierrefonds, and it is said that the new galleries will be open during the Exhibition year.

A curious question connected with ancient art has just been accidentally solved. The apartments of the Palais de Justice at Nancy have been decorated for a long period with a number of pieces of very curious old tapestry, which, according to local tradition, ornamented the tent of the rash and unfortunate Duke of Burgundy, *Charles-le-Téméraire*, who lost his life in the frozen lake or pool of Saint-Jean, when besieging the capital of Lorraine; antiquarians had pretty well decided that rumour was a story-teller when M. Achille Jubinal, author of a History of Ancient Tapestry, discovered in the imperial library of Paris a manuscript, No. 7,406, entitled:—"*Déclaration de plusieurs pièces de tapisseries que quelqu'ung veit longtemps à Vienne;*" in fact, a description of these very pieces of tapestry sent to the Duke of Burgundy by his ambassador in Austria. The subjects of two of the pieces are described in the following quaint terms:—*Grant débat qui fut jadys en la court de la royne Vénus, entre Jeunesse et Vieillesse*," and "*Condamnation de Souper et de Banquet, sur la plainte portée par Diner en la court de dame Expérience.*" It appears that *Supper* and *Banquet* were both condemned to be hanged. If the good people of that age found supper bad after a mid-day meal, what would they think of the habits of the present century? This subject is not certainly peculiarly artistic, yet a writer named Nicole de la Chesnerayе founded a play upon it which was performed in Paris, before Louis XII. The town of Nancy ought to pay civic honours to M. Jubinal, who has thus raised their tradition to the rank of an archæological fact.

An essay, or, to quote the title as given by the author, "Considerations on the Principles and History of Bas-relief," read by M. Guillaume, the eminent sculptor, and director of the École des Beaux-Arts, at the late annual meeting of the five Academies of the Institute, excited great interest and has since been published by the author in the *Moniteur des Arts*. The paper is long, but well repays perusal. It cannot be said that we moderns show any remarkable ability in sculpture generally; but perhaps there is no branch of the

art in which we are further in arrear of the ancients than in bas-relief. The opinions of an artist of the experience of M. Guillaume are peculiarly welcome. Bas-relief, as M. Guillaume says, has no type in nature: it is a form created by art; but it is a convention so natural that it has appeared at every epoch of art, and amongst all civilised nations. Bas-relief is essentially monumental and decorative, and can scarcely be separated from architecture as a part of which it first appeared. Its first object is decoration; its second to express facts and ideas by means of the human figure. "The first condition," says M. Guillaume, "is that, as ornament, it should properly fill the space allotted to it according to the rules of art. Setting aside the consideration of ornament, and looking at bas-relief only as a means of representing subjects by means of the human figure, it must be regarded in the light of an inscription. It is a style of writing, a language which, conforming to a certain extent to the rules of lapidary style, abridges and condenses ideas, reduces them to the most simple form, and appeals to the eye by the aid of instinctive or understood abstractions with concision and clearness."

"To be clear and concise," repeats M. Guillaume emphatically, "is, in short, the law of bas-relief. Everything in the composition must, in the first place, submit to this principle." These dicta will scarcely be questioned; and when we reflect how modern sculptors have misunderstood, or how far they have diverged from, these principles, it is not surprising how rare is good or even inoffensive bas-relief. M. Guillaume points out the error which existed in archaic times, when the upper part of a figure was often shown in full-face, while the lower was executed in profile, and remarks, that in the best epochs of the art the sculptor confined himself almost invariably to profile. Speaking of the conventional methods of representing some of the elements of the design, he adds:—"Water and flame may be indicated by undulations; as to smoke and clouds, they cannot be fully represented in bas-relief: the positive spirit of sculpture refuses to represent the impalpable. This applies to sculpture in general; but we note the fact here, because the accessories are more important and play a greater part in bas-relief than in the round." M. Guillaume insists on the rule that bas-relief should never include more than two or three superposed planes in the composition, and points out how the Greeks sometimes diminished the thickness of the figures in front in order to prevent their shadows diminishing the effect of the figures in the rear, and indicates the frieze of the Parthenon as furnishing the most admirable examples of this and other artistic arrangements.

In dealing with the subject of light and shadow, M. Guillaume touches on the question of coloured sculpture. He says:—"Finally, the bright and contrasted colouring which the ancients applied to monumental sculpture was not intended to rival what was actually painted, but simply to augment the clearness of the figures, and to give them a fixedness independent of the play of light and shadow." This view is equally a recognition of the value of colour in bas-reliefs, and a condemnation of it in the case of isolated statues, the conditions of which are diametrically opposed to those of bas-relief; the play of light and shade which produces confusion in the conventional composition being the glory, the harmony, the life of the statue.

The young sculptor would do well not to forget the following simple warning:—"As bas-reliefs are executed in marble, in stone, in terra cotta, in ivory, in metal, each of these substances has its own exigencies and capabilities, and, so to speak, a peculiar genius which the artist should study to take advantage of."

"This art always," says M. Guillaume, "bears the imprint of a certain archaic and conventional character. Its effect is to give power and fulness to whatever it represents. In some of the finest works of the Athenian school we find figures whose proportions and forms are expressly made more robust and less slender than those of statues. Lastly, in ancient works the adherence of the subject to the background is always well maintained, the result of which is a solidity which harmonises well with architecture, and which, united with simplicity and power, gives a monumental character to sculpture."

M. Guillaume designates the genius of the Greeks, "full of poetry and logic," as specially calculated to make them pre-eminent in this branch of art; and he quotes their legend of its invention as having a deep significance. Dibutade, a potter of Corinth, say they, created bas-relief by placing clay within a space already prepared—thus intimating that the art proceeded fundamentally from drawing. "The Dorian and Ionian schools, with different aspirations, in their turn gave it impulse; but from the first essays to the *chefs-d'œuvre* of the Parthenon, from the jutting fronton even to the small sketches freely traced with a light point on marble vases and funereal urns, the uninterrupted tradition of the artist was the concise clearness of the idea, the simplicity of the plans, and the perfection of the contours. In their hands (the Greeks') the bas-relief is a language concise without obscurity, and of severe elegance; elegance, which by the manner of presenting the subject, the luminous purity of the form, and the intelligent preservation of the expression, realizes in a plastic form the most delicate qualities of the art of speaking well. And the sculptors thus produced exquisite works, the contemplation of which delights the imagination, while the study of them will ripen our judgment."

M. Guillaume points out how the Romans failed to seize the true principle of bas-relief, made it subservient to the political and religious demands of the moment, applied it to pomps and triumphs, and produced generally nothing but showy ornaments. They missed the conventional sense of the art. But M. Guillaume says, that the theory of the art was never entirely lost, in spite of the imperfections of its application; and the image-makers of the middle ages, although wanting the sense of beauty possessed so eminently by the Greeks, executed bas-reliefs on true principles, but the artists of the renaissance were so carried away by the love of painting and the application of perspective, that sculpture suffered severely, and bas-reliefs grew to be nothing more than pictures in sculpture. Deploring the failure of the great artists of Italy and France with respect to bas-relief, M. Guillaume pays a just tribute to Jean Goujon, who, by the force of his own genius, broke through the false practice, and "produced works which, as regards the skill in the treatment of the plan, rival the finest productions that Athens has bequeathed us." This is only justice to the great sculptor, who, in an age of passion, violence, and false taste, seemed to have possessed the gift of almost absolute purity and grace. It is only necessary to study one of his nymphs of the Fountain of the Innocents, to see that the sculptors since his time are at least as far inferior to him in this respect as he was to the Athenians.

The distinctive difference between painting and sculpture in bas-relief is well expressed in the following lines:—

"Bas-relief starts from a positive imitation of objects, while painting depends upon the optical illusions; so that, if design applied to the latter is an incessant employment of the rules of perspective, the design appropriate to bas-relief is in its essence purely geometrical."

In spite of the talent of the artists, the principles of bas-relief were utterly neglected in Italy under the influence of Bernin, and in France under that of Lebrun, and the evil had grown to its height when accident turned back the current into the right direction. "David, in founding his teaching on ancient sculpture, forced back bas-relief into the true path. About the same time the admirable works of the School of Phidias were discovered at Athens. Still later, Lord Elgin carried a considerable number of these to London, and the models were multiplied by casts—happy concurrence of events which, by the force at once of reason and examples, carried back bas-relief to the purest source."

THE WINTER EXHIBITION OF THE SOCIETY OF PAINTERS IN WATER-COLOUR.

IN our last we noticed the Fine Art Exhibitions which had opened their doors when we went to press. Not least in our regard, "The Old Water-Colour Society" now claims a few lines; and it is pleasant to note that the old acquaintance, still strong and hale, shows little, if any, of the sere and yellow leaf. The gaps that time and secession have made in its ranks are worthily filled up, while veterans enough are on its muster-roll to constitute alone a strong force.

That manual power and mental grasp still abide with the old fraternity none may doubt who scan the wild and tempestuous "Deathride" by Mr. John Gilbert, or the same artist's "Siege of Calais;" or James Holland's "Llynn Idwal," a magnificent drawing, in which the desolate majesty of a mountain wilderness is felicitously conveyed with most artistic concealment of all artifice; or the younger Coxe's "Arenig, from Lake Crwyni," to which the lover of wild nature shall turn and return; or E. Duncan's poetic "Snailholm Tower," gauntly frowning over a lonely Scottish moor; or Alfred Fripp's "Ruin on the Roman Campagna;" or Branwhite's grand gallery work, "An Old Lock" (this claims to be seen two or three yards off); or, again, Duncan's "Snowdon, from Lake Llydaw," and T. M. Richardson's great "Benvenue."

In the class, again, who thus capture the eye and the intelligence by *tours de force* must be numbered Mr. Cullingford Smith, with his broadly-treated "Scene at Watendlath," that picturesque mountain village that is perched among the Borrowdale Fells, high up above the better-known Lodore. Mr. Alfred Newton thus arrests us by his "Cucullin Hills," where the wrestle of the dawn with a sea-mist is surprisingly rendered: and so, perhaps, we might go on, until no room was left for a word about masters of another order.

The men who more delicately weave their spells are many in number, and withal very strong and successful. The "High Street of Conway," for instance, by Mr. Collingwood Smith, is a wondrous piece of perspective; and in "The Canino Real, Toledo," Mr. E. A. Goodall has succeeded in producing one of the most effective bits conceivable with the fewest lines and the thinnest washes of colour; and with these we may range the "Prague" of S. Read, who has carefully sketched and lightly tinted the eminently picturesque forms seen from the Nepomucene Bridge in that city.

The lover of nature condemned to winter amid the fogs of Thames may here come and dream of country life among the charming works of Mr. J. J. Jenkins, who draws his inspirations from the many well-loved scenes at Wargrave, Shiplake, and thereaway; or with S. P. Jackson, who seems to work the same ground with no less truth of feeling; and the "Summer Twilight" of the latter and the "Knole Park" of the former are among the many examples of their fascination. More sensuous—and fascinating too, in another way—are the high-coloured, warm-toned performances of Mr. G. H. Andrews, whose "Dort" and "St. Bennett's Mill" are splendid examples; the dancing ripples and glistening leaves of Naftel; and the elegant yet forcible figure studies of Miss Gillies and H. P. Riviere.

The fourth screen is a constellation in which shines Birket Foster, with three studies of "Skies" and three of "Trees," to praise which would to us seem almost an impertinence. With him are William Callow, Joseph Nash, Henry Gastineau, Frederick Tayler (whose glossy-coated steeds are the delight of the equestrian order), and the masterly cattle-painter, Brittan Willis—an able recruit from the ranks of the oil-painters—all in fine form. They are a strong array; and such favour does their elegant art now find with the public that the comparatively few works they offer for sale are very rapidly absorbed, to decorate the drawing-room and the boudoir.

REVIEWS.

Recollections of the East. By a SUBALTERN. Day and Son (Limited), London.

THE individual who can return from the East without interesting reminiscences must be remarkably devoid of imagination, or powers of observation and comparison. The religionist will have his memories of dreamy mosques and fanciful pagodas, sacred to the prophet of Mecca or the frolicsome Krishnu. The sentimentalist will muse over the departed glories of marble and gem-bedizened palaces, and people them again with gorgeous Rajahs and lovely Cashmerian girls. The artist will meditate upon airy pinnacles and delicate arabesques, upon picturesque groupings in bazaars, and the thousand charming combinations in form and colour of a life totally new to him. The naturalist will think of all the delights afforded him by animal and vegetable kingdoms, so different from those of his own more temperate climate. But the recollections with which it is our present purpose particularly to deal are those of the humorist, returned from serving Her Majesty in British India. Ours shall be memories of brandy-pawnee and pig-sticking, cricket with the thermometer at 100°, and regimental messes with the punkahs swaying over the tables and the turbanned kitmutghars standing behind their perspiring masters' chairs. We have before us, in a handsomely bound book, well adapted to lie on a drawing-room table, a series of excellently-executed photo-lithographs, in which a number of striking scenes of Anglo-Indian life are represented with delicious humour, yet with perfect fidelity. Our military artist carries us through a succession of most amusing episodes in a young officer's Indian career. They commence with his arrival, when he is beset by a crowd of obsequiously salaaming natives, who present their "characters," and beseech the sahib to take them into his service, volubly uttering the while a thousand protestations of their punctilious honesty and everlasting faithfulness; and they terminate with his departure, when he hurries on board ship, pursued by the same, insisting that their just demands upon his purse have not been liquidated. We have "our station," "our bazaar," "our band-stand," "pay-day," and numerous other comical, yet artistically conceived pictures. There is the "frightful position of Stumpkins," who, when out tiger-shooting, without the old-fashioned but comparatively secure elephant, "in a second, sees the panorama of his life pass before his bewildered brain;" and the difficulties encountered by Lanky, in the less perilous but still dangerous sport of pig-sticking. We have the battalion on parade in the misty morning, and the same on the march, their solar topees just visible through the clouds of dust, and a few palm-trees towering above bayonets that glisten in the fiery sunshine. There is always, we may observe, in these drawings an expression, ranging from the satirical to the merry, upon the sun's countenance; as though he was chuckling over the torments he was inflicting upon the intruders into his favoured domain. We have "our theatricals," too, in which the gentle heroine is represented by a shaven warrior; and "our ball," whereat some two or three fair ones have to waltz by turns with about nine times their number of languid cavaliers.

Our artist has managed to convey, with all his fun, an

admirable impression of the heat and aridness of India in the hot season; and has really depicted most vividly, considering the slightness of the sketches, the characteristics of the country. His faces, too, both of natives and Englishmen, are wonderfully distinct and natural in their features and expression. The solemn, wise-about-nothing sort of aspect of the former, and the half-ennuyé, half-discontented look of the latter, who, at the same time, do not appear by any means incapable of enjoying life, are both accurately portrayed.

Bombay appears, from internal evidence of the costumes of the natives and aspects of the scenery, to have been the presidency in which these sketches were taken. Any young gentleman, who may be ambitious of proceeding thither as an officer of the army, may be enabled to derive from them a very just idea of the sports and luxuries of which he may partake, and the dangers and discomforts to which he will be subjected. Let him, however, beware of not balancing the latter duly against the former, lest, after his arrival in India, he should too late discover the life, depicted in such softly glowing tints in the warm light of his fancy, to be very much too hot for him. These pictures are exceedingly humorous; but the atmosphere of a room at 90°, even with every appliance for keeping the place cool, is no joke; and the mosquitoes and flies, which may be observed, especially in one of the sketches, buzzing about the head of the youth, as he vainly courts repose upon his couch, are most irritating realities. If they be properly studied, and their delineations of pain carefully considered with those of pleasure, we do not think that these drawings, though we pronounce them, can be said to represent the existence of an Anglo-Indian altogether under too seductive an aspect.

NEW MUSIC.

MESSRS COCKS & CO., of New Burlington Street, have sent us for notice three recent songs by Mr. W. T. Wrighton, and Mr. F. Godfrey's tuneful valse "Helena," about the latter of which and its capital introduction there can be no two opinions.

Mr. Wrighton has a very enviable reputation as a composer of "drawing-room" ballads. Much is implied by this term of classification; and the musician who can observe the hard conditions dictated by the pretty tyrants of modern society, and, at the same time, produce something meritorious in its way, is decidedly markworthy in his generation. Mr. Wrighton does not write for posterity, and sacrifice himself upon the unremunerative altar of high art, but endeavours to meet the exigencies of the day by fashioning ballads, which shall possess a certain charm of simple, straightforward, unaffected melody, together with accompaniments of the easiest possible description. His melodies are generally tender and expressive, and his treatment of them as refined as it is correct. "They tell me I am quite forgot" is precisely the ballad "of the period." The melancholy sentiment of the words (by Mrs. Evans Bell) is fully realized in the music, and the composition (in B-flat) is suitable for a mezzo-soprano, or even a contralto. "Grieve not for me," a song which last season was made popular by Madame Parepa, is in G, six-eight time. It has a range between E and F-sharp, and is available for either male or female voices. In "A wearied dove" Mr. Wrighton is not particularly original, as far as subject goes. The modulations are smooth and pleasing, and the delightful motivo in D-minor must charm all.

CORRESPONDENCE.

To the Editor of NATURE AND ART.

SIR,—To those who are fond of natural history, the following incident showing the fondness of animals for music may not be unacceptable. Some, it is well known, have the greatest detestation of it, the canine species amongst the numbers, as our ears can too well testify to; but I never heard of it occurring before in a case such as I am about to relate. Some few years since I had a hare which I turned out in a large walled garden: it was what is usually termed a *tame* hare, though wild enough when any one entered the garden. I was amusing myself one night, as was my wont to do, on the harmonium, which was placed by the side of the parlour window looking into the garden. After playing a short time, I was rather startled at hearing a tapping at my window. I stopped for a while, and then resumed my playing; but I had scarcely recommenced when a repetition of the same noise occurred. "Well," said I to myself, "I can't stand this;" so I shut up the instrument and sat down by the fire to read. In about half an hour after I opened the instrument again, and had not been at it many minutes before the same noise occurred; so I bade good bye to my amusement for *that* day. On the following night I again commenced playing with the same result, wondering what could be the cause of the noise and being obliged to cease in consequence. This state of things occurred for three or four consecutive days, when the mystery was made apparent. I was as before playing when the noise recommenced, and I thought I saw a movement at the window, and looking towards it I found to my surprise that my hare was seated on its haunches, and its two fore-feet were resting against a pane of glass, so that the noise I heard proceeded from its drumming against the glass with its paws. I can but consider that the animal was pleased with the sounds, or why should it have been attracted so to the spot from which they emanated?

As happens in most cases to pets, so was mine no exception, for it met with an untimely end. I was one Sunday evening playing to a clerical friend, when we were startled by a screech from the hare, which was making its way evidently to the accustomed spot. I flung up the window, calling out "The hare, the hare!" but my friend and I, candles in hand, searched in vain; so we presumed it had escaped from the claws of the cat, which had been alarmed by the window being thrown up. Next morning I was dressing, when I saw pussy stealing its way towards a carrot-bed, and, as it passed up one side, the hare jumped out on the other. I loaded my gun as promptly as possible and went into the garden, but puss did not wait for a warm reception. I went out for a ride, after breakfast, and returned about one o'clock, and as I looked out of my parlour-window I saw a cat asleep on the steps opposite, and, opening the window gently, I shot the supposed enemy of my musical pet. I now flattered myself that the danger was over; but, in my sleep that night, I thought I heard a screech, and from that time to this I saw no more of my hare; for I had either shot the wrong culprit, or some other cat, of equally epicurean taste, had carried it off—and, no doubt, feasted "right royally."

G.

NATURE AND ART

February 1, 1867.]

BIZZ AND HER FOES.

By Mrs. S. C. Hall.

IN THREE CHAPTERS. CHAPTER II.

LET my coal-shed to a very plausible, good-for-nothing fellow," said Mr. Hatchment, "who promised everything, and never kept his word; he was an Irishman, but I do not desire to reflect on the country—some of my best customers are Irish, and I only wish I had double the number. He brought Bizz with him; she was a slight young thing then, a pretty, shiny, active dog, and in time had her second litter of pups; he never paid his rent—I offered to forgive it to him; he would not resign possession, but kept the key, though there was nothing in the shed but a few sticks.

"I ought to have told you, ma'am, that when first he came to the place I gave him five shillings for the dog, but when she had pups, Mrs. H. found her inconvenient, and so the fellow said he'd take care of her for me in the shed. When things went bad with him,—and I heard since that the dog never belonged to him nohow, as the lawful owner left her in his care, and paid a shilling a week, or something more, for her board and lodging,—he would go away and leave her there without food or water. I used to thrust her in some through a hole, but I dare not go near the door, which she understood she was to guard! The fellow had put her up to all sorts of tricks.

"One evening, a pair of policemen came with a search-warrant; they had information that some stolen goods were in the shed, and they set about breaking open the door, but the poor faithful animal, who was reduced to a skeleton, had determined to withstand them to the last. One of the men wanted to shoot her, for she looked all teeth and fire, but I would not consent, and it was a sight how those two great men were kept at bay by that small dog, until one of them bethought him of a stratagem; the hole through which I used to push her food was close to the straw where her pups lay, so he proposed that his companion should withdraw a pup, and pinch it to make it cry, while the other effected the entrance, for well he knew that the poor mother would go to her pups. He calculated," added Hatchment, "on the strength of her maternal feelings.

"When he got the little beast outside, he pinched and ran with it to my house, and Bizz in full chase. Of course the policeman turned out the other pups, entered, and locked the door. As there were four pups, poor Bizz had enough to do to carry them to shelter, for two had crawled into a pool of water.

"The men did not find the goods they expected, but I regained possession of my shed. I never saw or heard of her master since, and the poor thing attached herself to me, chiefly because I saved the last of the pups from drowning. She is a wonderful watch, and if Mrs. H. or I left her in charge of our dinners, she'd die dead of starvation before she set a tooth in anything, even sheep's heads, which are her favourites; but once out of the house, she knows no law, only to take and keep what she fancies.

"You know the best and the worse of poor Bizz now, ma'am; there she is, an ugly customer, but as good a watch as ever winked at a thief. She likes to have a yard of her own, and it's all the better if she can't get out of it.

"Go to the lady, Bizz, and be as faithful to her as you've been to me! Mrs. H. will see the loss before the month's out in apples and oranges, and want a dog in that time as badly as now she wants to get rid of one; but," he added, forgetting his usual politeness, "that's the way with the women,—leastways in greengrocery. She's turned as hard against the dog as a frozen turnip; she's shut her eyes against the good, and opened them on the bad wider, and forgetting past services, is the worst foe the beast has,—worse than cats or boys. But don't mind it, Bizz, if the lady won't have you, I'll give you as easy a death as if you'd been a lady's lap-dog all the days of your life."

Bizz looked up at her master's round, rubicund face, into which he was endeavouring to impart an expression of sentiment, as if she said in her hard, dry way—"Don't be a fool, Hatchment," and with another wink at me, she curled herself round

the top of the potato-basket, while her keen eye shone like a star above her determined tail.

"Please, ma'am, am I to send over the dog and the potato-basket?" inquired Hatchment, as I was leaving the shop.

Now, whenever I am undecided about anything, I fall back with the most wifely meekness upon my superior, so I answered, "I must ask my husband, and will let you know."

"Oh!" said the greengrocer, while a bright smile illuminated his good-natured face, "it's only to tell him I'm going to drown the dog, and he'll have her, I know that. Bizz, you're sure of a good home now, old girl, for life."

Hatchment was right.

The following day, Bizz and her favourite potato-basket were installed in the little yard, the potato-basket in comfortable shelter, and, lest she might escape through the coach-house or stable into the Gloucester Road, the communicating door was locked, the yard being considered by cook the weak point of our *premisees*, as she pronounced it.

The manner in which cook altered, and refined, and elongated the English language, in her desire to be considered *English*, would have been exceedingly amusing, if it had not in time, as I have already said, quite destroyed my belief in her veracity: that made me uncomfortable. If I used an Irish phrase, or relieved an Irish child (she was as steel against a full-grown Irish pauper, but a ragged child melted her heart), she would turn away, muttering, "May the heavens be your bed when the time comes!" or, "The Lord blesses the dew that falls on the young corn." Tears would rush into her great grey eyes, at any tale of distress connected with Ireland. It was the time of the cruel famine which fell upon my poor country, and I received subscriptions, to assist in even so small a way the good Samaritans who came forward to aid their fellow-creatures in their time of sore need. Our servants, and the servants of many of my friends, brought me their mites, and children, now grown to be brave men and good women, by rigid self-denial heaped their pennies together, and not only gave a donation great for their small means, but continued their half-penny or penny a week despite all temptations, until there was no longer need of help. Cook's donation was very liberal, and she thus, so to say, *excused* it:—

"I'm sure I've no call to the country, or the country to me, only in memory of my dear grandmother. I ought to do my best, for it's no rest on my bed I'd get if I thought one of her people wanted anything I could send; you've no right, ma'am dear, to be evenin' the country to me. I'd never have come to live with an Irish lady, if I'd a' thought she'd lay claim to me."

"Well, cook, it is very easy to remedy that now."

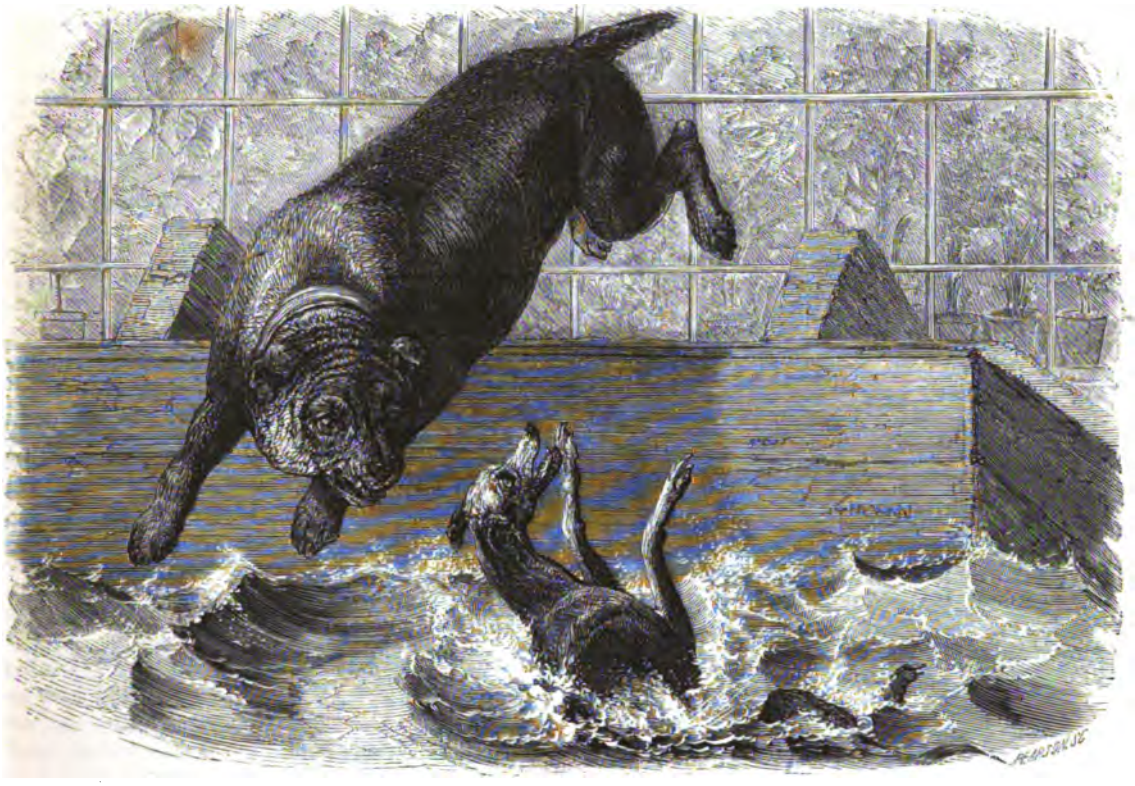
"Oh, don't! I beg your honour's pardon. I did not think you'd get that maning out of it, only I never could bear any one to take me for Irish, just out of my grandmother."

I do not think that Bizz enjoyed the security and tranquillity of her new quarters half as much as her more active life at the corner of Steward's Grove. Not that she was forgotten by her foes; the greengrocer and butcher boys seldom passed the yard gate without drawing a stick across it, in a manner peculiar to boys, accompanied by "Hallo, Bizz, old girl! how's your sheep's head?" or, "Bizz, my beauty, how's your eye?" This Bizz found very hard to endure, and I have seen her tearing the wood of the gate with her sharp, strong teeth, anxious to revenge the cruel insult. The cats, too, found her out, and would sit on the wall aggravating her, so that cook had to spend a considerable portion of her time in dislodging them. Bizz and cook used to hold confidential communications together, in cooing sort of whispers, and in what was an unknown tongue to all but me, who observed that whenever cook murmured to Bizz "Thurum pogue," the animal would stand on its hind legs, and endeavour to lick her face or hands. I spell the words perhaps not correctly, but as it is pronounced. "Thurum pogue" means in Irish "Give me a kiss." I would have asked in the most direct manner if Bizz was Irish born, but I knew cook would deny it, and the manner in which the dog pricked her ears at an Irish voice, and screamed and jumped with delight when a passing organ (patronized slyly by cook,) ground out "St. Patrick's Day," told a tale poor cook would not have liked to tell. Dogs are frequently affected by particular tunes. I have one of the beautiful dogs of Malta, who, after washing, looks like a heap of snow-flakes, and this creature, by name Tiny, recognises "God Save the Queen" with determined loyalty, joining in, if not in excellent tune, certainly in good time; she takes no notice of other music. Even so did "St. Patrick's Day" excite the patriotism of "Bizz, the baste." Indeed, I once caught cook dancing a jig to this very tune, which she whistled *sotto voce*, to Bizz, snapping her fingers, "covering the buckle," "heeling and toeing" it, to perfection, while Bizz capered on her hind legs opposite to her, changing sides with marvellous dexterity. The other servants were out for a holiday, and cook thought I was in the green-house. She had brought Bizz in to tea, and after tea, doubtless wished for a little national exercise. It was a scene never to be forgotten, particularly the conclusion, when Bizz sprang from off the ground into cook's arms, and they hugged each other with every demonstration of affection. Bizz winked, and absolutely moved her tail in a near approach to a wag, and then there was such "cooing" and whining, and "cushla machreeing," as I never heard before!

After this, I felt that Bizz and cook were united by the memory of some early companionship or affection, which was kept a profound secret from me, though I half suspected it was known in a degree to Hatchment.

Certainly the dog was a character. At first, she licked her lips at the Italian greyhounds, as she used to do at the cats, and they, pretty things! arched their necks and tossed their heads disdainfully, as they passed the trellised gate, which,

though it prevented any assault, did not prevent their eyeing each other; but in a short time Bizz understood that they belonged to the *premisees*, and took them under her protection, a guardianship particularly ignored by Ninon, who believed she could protect herself. Folly was a desperate little fool. I only wonder now she passed through life at all: she was always getting into difficulties. One day she sprang into the dripping-pan, and scalded her pretty feet with the hot grease; another time she ran up the steps, and jumped into the water-butt, where she would have been drowned but for



Bizz, who, having seen the accident through her trellise, got up a tremendous outcry, and when cook opened the gate to ascertain the cause, made a rush up the steps, dashed right into the butt, and effected an immediate rescue. Of course cook made the most of that piece of sagacity. Had it not been for Folly's delicate and exceeding beauty, I could not have tolerated her stupidity and absurdity as long as I did; but beauty cannot make a long stand against real disadvantages; she was a most helpless anxiety, and was totally devoid of affection. I gave her away at last to a person who already possessed two pugs, a skye, a Russian poodle, and a huge mongrel Newfoundland. I forget her name, but I remember she was always called "the dog lady," and very fond she was of Folly.

The untiring watchfulness and sagacity of Bizz interested us more and more: she declined our caresses, and was quite independent of sympathy, but whenever I whispered *Thurum pogue*, or *cushla machree*, or *avourneen*, she was on her hind legs in a moment, her rough nose thrust through the bars of the garden gate, and her red tongue extended to its full length, in the endeavour to lick my hand. If I went still farther, and sang a few bars of "St. Patrick's Day," her queer face shrivelled up into a grin, and she dodged about on her hind legs, evidently expecting me to do the same; until doubtless offended at my declining her as a partner in a jig, she would drop down suddenly, and shrink back to her refuge in the potato-basket. Despite her confinement, I really think this would have been the most tranquil time of Bizz's life, if she had not been roused and irritated by the boys in the road and the cats on the stable-tiles; they tormented her terribly, and did so with impunity, as she could not get at them: she was well-fed, and many a time during the day, and especially in the twilight, cook stole into the yard, to hold converse with her favourite.

So matters continued: until one morning as I was passing from the front to the back garden, a rough voice from the road called out without ceremony or introduction,—

"My lady, that's my dog!"

I went to the gate, and asked the man if he had spoken to me. The reply was:—

"Ay, indeed, my lady,—the dog in your yard is my dog,—I know her by her *vicious voice*; there isn't such another all over the world; and by the same token her name is Bizz."

I replied that the dog was ours; it was given to

us by our greengrocer Hatchment, who had a right to dispose of her as he pleased.

The man sturdily persisted "that the 'baste' was his, and he'd have it, if there was law or justice to be had in England," and he placed his hand resolutely on the gate, which, as usual, was locked inside.

I told him he should not have the dog unless he proved his right to it;—just as I said so, cook, who had only heard my voice and only seen a rabbit-skin cap above the rails, came from the kitchen, straight to the gate. Instantly, an exceedingly rough and dirty hand was thrust through the bars, exposing also a thick and bony wrist, accompanied by a shout so loud, that all the dogs barked, the toll-man's magpie chattered, and the toll-man poked his head out of his sentry-box.

After a variety of ejaculations the voice subsided into words,—"Oh, Molly O'Gorman, and is it yourself that's in it? Molly, won't you give me a shake of the hand for the sake of old times,—though you did cast me off, and never thought it worth your while to inquire whether I was dead or alive. Oh, Molly dear, have you forgotten the babby-house I built you, in the grip of the dry ditch?—and the magpie I reared for you, that stole the priest's spectacles?—and the 'hide-and-seek,' and 'blind man's buff,' and the 'jig' we used to dance in the sweet summer evenings, on the fair green of Ballynatrent" (oh, cook! cook!!). "And didn't your mother send you that very puppy Bizz—when I was so broken-hearted that I thought I must follow you to England: and it's cruel hard you were, Molly my jewel,—and I that carried that pup that your mother sent you, I may say inside my skin, I took such care of it! Maybe it's the English air that's taken the sight out of your eyes, and the hearing out of your ears, and turned the tongue in your head, and the heart in your bosom, into cowld stone, so that you won't see or hear or spake to the wild bird of your own mountain. Didn't I train that *baste* into all sorts of tricks,—and the time you broke your leg, what amusement had ye? Only the dog. And if I made a highwayman of myself, and if I did lose my character,—oh, Molly, it was you that did it, for you wouldn't spake the word that would save me, and you know, that at Ballynatrent, when you turned first against me, no one could say a thing to my disadvantage, that might not be said against twenty others, as well as myself,—and there you stand now, as stiff as the round tower on the Rock of Cashel, without a smile on your lip, or a tear in your eye, or a 'save you kindly,' to a poor craythur, who,"—and then followed a recapitulation of the same story of their early knowledge of each other, mingled with protestations of regard, and the fact of his bringing Bizz over, a present from her mother, "under his skin," for "safety."

To this cook listened with forced calmness: the shame that she should stand before me a certified Irishwoman, after all her protestations to the contrary, overwhelmed her: then her pride received a terrible shock by such a ragged disreputable looking fellow having been at any time her friend and neighbour. I withdrew a little way from the storm that I fancied was brewing (for I had never noted patience or forbearance among cook's virtues), observing in an undertone that "she had better speak to her friend inside, than outside the house, for that the tollman and his magpie were listening to all that passed." But the poor woman was quite crushed. In a moment she was on her knees at my side, clinging to my dress, and struggling for words: at last she managed to say:—

"Send him away, oh, mistress dear, send him away. I wouldn't let the door of your house be darkened with the likes of him: oh, you don't know the pisoned drop that's in him—I'll give him my quarter's wages, ma'am, if he'll take an oath to the priest not to come near me, only don't let him have the dog my poor mother sent me: it's thrue he brought it, but it never was his, as I'd prove in a law court, rather than let him have her, though I'd die alive with the shame to own him for my countryman, or to let on before the English that I'm Irish, and he to the fore! Oh, lady dear, save me from the liar's shame, and don't let him have the dog. She's dead now, my poor mother, ma'am, and that dog is the only thing belonging to her I can look at or touch. I know his wickedness; as I'll have nothing to say to him, he'd murder the dog before my eyes; he tried it once, and that's the way her lip was split. She took care of his shed, because it was in her charge, but she hated him, and was under no compliment to him in life, for I paid for her board and lodging, though it's little I had to pay it with. Send him away, ma'am dear, only don't, don't let him have Bizz."

I said, "For all this I am sorry, but what proof have I that you are telling truth now?"

She looked earnestly in my face, and the words came trembling from her lips,—"I never told you but the one black lie, denying my country, and sure you didn't believe me, and what hurt was it to you?"

"Not to me, Mary, but to you; it prevented my believing in you."

"Believing in me!" she repeated, more than once: that was perhaps the first moment she felt the injury untruth does the untruthful. "And it was out of my denying my country, you got to doubt what I said?"

"Certainly."

"See that! It was he that made me ashamed of the country, and made me turn my tongue to speak fine English! Maybe you won't believe what a villain he is, because I say it; but oh, ma'am dear, if you'd take the stick from him, and let Bizz at him, you'd see what she thinks of him, and *she never told a lie in her whole life!*"

Then slowly rising she added, "But believe me or not, if he ever enters under the roof where I am, or touches that dog, which you sheltered, though it's my dog, I'll make a convict of myself." After expressing this determination she walked into the house, regardless alike of the man's entreaties and reproaches.

I told him in a few words that he must leave the gate, as it was evident my servant would hold no communication with him, and that from his own showing the dog was not *his*, but hers.

This seemed to him a new reading of his claim, "Maybe I deserve her to seal her lips against me, my lady, but it's hard, so it is. We war neighbour's children close to the fair green of Ballynatrent, and I wish I had never left it: if she would only say 'I forgive, and God bless you!' but she was always mighty high in herself, and would make no more allowance for a boy like meeself, than she would for a girl who has the grace of God in her heart an' her eyes from her cradle to her grave. Oh, lady, if you'd undertake my cause, I'd lave you to be judge and jury, and abide by yer law, and that would be the first law I ever stood to, you see, if your honour knew the rights."

I do not think I mentioned that Bizz, doubtless from her Celtic blood, had an intense hatred, not to one individual, but to the whole police force; despite the eight-foot wall that shut her in, she knew the step of a policeman the moment it crossed the road, and saluted the sound with a shrill, short, whistling sort of bark, different from her usual warnings; just as poor Rabbit-skin uttered the words, "if your honour knew the rights," Bizz gave tongue, sent forth her police bark, and the erect form of our government protector turned the corner of the Gloucester Road. In an instant, the man started from the gate, and rushed off to the right, while the policeman advanced more rapidly than usual from the left.

He paused at the gate. "I beg your pardon, Madam, but was that man begging?"

"No, he was not."

"He's just out after his last three months; but we've all our eyes on him."

I thought within myself, that if Mary had heard the policeman confess that the eyes of the whole force were on her "playfellow of the fair green of Ballynatrent," it would rouse her sympathy far more than his eloquence. She thoroughly sympathized with Bizz in her dislike of the "peelers."

That evening, the housemaid told me cook was not well, she had gone to bed, but would not say what was the matter with her.

I found her door fastened on the inside, but she "hoped I would forgive her for shutting herself in, she would be all right in the morning."

I went to the yard, and invited Bizz to come and see cook; she pondered over the invitation for a minute, then winked, and followed me upstairs with much gravity, sniffed and scratched at the door, and was at once admitted. The usual "cooing" and "cushla machreeing" did not follow, but I heard heavy and bitter sobs, and more than one sympathetic whine from the poor dog.

I was sorely perplexed between the real regard I entertained for Mary, and the fact that her residence having been discovered by this good-for-nothing man, it would be painful to her, and perhaps dangerous to us, if she remained in our service. I knew her pride, and the sensibility which is its invariable accompaniment. I believed she was sincerely attached to us, as Irish servants so frequently are to their employers. For some time she did not quite harmonize with the other servants, nor they with her, but that had died out. Though Mary denied her country, she never denied her creed, and I believe never missed an opportunity of standing up bravely for the Pope. My dear mother's maid (according to Mary) was a "black Protestant," and certainly *she* lost no opportunity of boasting that *she* went over to Ireland with the great and good King William, who "saved the country from popery, slavery, and wooden shoes;" *her* prime favourite among the animals was Ninon, who, by an ingenious sleight of hand, when asked to drink a cup of milk to "Dan O'Connell's health," turned away her beautiful head, and refused to lap; but when asked to drink the health of "King William," drank it with a will, and a joyous wagging of her delicate tail. There were two factions in the kitchen, but that of the cook was the most difficult to comprehend, for while she disclaimed her country she did battle for the Pope. At one time the war waxed so fast and furious, that I found Ninon decked in orange ribbons, and the kitchen cat (it was before Bizz's arrival) inconvenienced by a huge bow of green ribbon. I threw both emblems into the fire, and declared that if there were any more party-quarrels, both servants should be discharged, a decision which I found gave the English housemaid great satisfaction.

But this new difficulty was far more perplexing, and after half-an-hour's mental weighing and measuring, I could only arrive at one conclusion, and that gave me a great deal of pain. Just as I was again weighing for and against, cook asked permission to come in, Bizz followed her, and curled herself round at the feet of her legitimate mistress. Mary looked shy and distressed, as she had never looked before, and was painfully at a loss for words; at length she said,—

"Your kind feeling for me, last night, mistress, has saved the life of Bizz. That born villain threw poisoned food over the wall to the poor innocent dog, out of revenge on me, because I would not spake to him: the mean, cowardly *spalpeen*, to turn on the dumb innocent."

I was greatly shocked, and asked for proof.

She stated that one cat, who had been prowling in the yard, was dead, and another poor animal dying; she had herself taken a bone to the chemist's, and he said it was powdered with poison.

The act was so un-Irish, that I was slow to believe Rabbit-skin had been guilty of such cowardice and treachery. I told her so.

"May the Lord help your innocence!" she ejaculated; "but the nature of him ever and always was to go through fire and water for revenge. I know him to my sorrow, an' so I ought,—he's my husband!"

I could not help repeating the word "husband!"

"Not all out," she added, "though we war' book sworn to each other, an' we little more than children; but just as I would have kep' my word to him it

was the Lord's mercy that saved me. Sure I found he had another wife, a poor motherless girl, that he won to go to the priest with him, in less than six weeks after she first saw him !—more fool she, and she with a tidy trifle of money !"

"Then he has a real, living wife, Mary ?"

"If you please, ma'am, he has not."

"Why, you said just now, he had."

"*Had* isn't *has*, ma'am; she's dead, happy for her ! it is the readiest way to get rid of a blackguard like that ! She sent for me to ask my pardon just before she was called. 'For what ?' I says.

"'For taking Mike from you,' she says, quite natural, 'who had the best right to him.'

"'Don't mention it,' I says, 'you did me the greatest kindness in life.'

"'But you'll have him now,' she says, 'and you'll be a far better wife than I have ever been,' she says, that did the work to be buried with him, that he might have it handy when he met her in the next world ! But what I'm wanting to say is this—I must lave you."

There was a long pause; rivers of tears rushed from those great, grey eyes, and that dear, ugly dog stood on its hind legs, gazing into her face with mute agony, until, at last, the woman sank down beside it, and laying her face against the dog, wept long and bitterly.

"I could not stand the place," she said; "why, this very morning, when I was washing the steps, the tollman's magpie kep' on screaming, 'Good-morrow, Paddy.'"

I reminded her that the bird had done so these two years.

"But I couldn't bear it now; moreover, I know that man will be hung, and I've had disgrace

the poor, misguided craythur, who was a born slave to him, the dirty tyrant. So I knelt by her side, where there ought to have been a bed, and I swore to her that I never would have hand, act, or part in him, and with that a smile came like light over her poor, white face, and her eyes shone for a moment with a joy past telling.

"'Then,' she whispered, and they war her last words, 'then you won't come betwixt us in the next world.' As if she had not had enough of him in this ! Oh ! then, it put me in mind, though I don't know why, of 'Sim of the Stick,' as we called him, who beat his wife regular every week for forty years, and when he was dying ordered the shillala enough out of him already. He'd never rest, *either*, till he had the dog's life or mine ! He'd think as little of taking one as the other; sure, I know. So, ma'am dear, a cousin of my own sails with his family from Liverpool to Melbourne next week, and I and my dog will go with them; the bad thing is, leaving you unprovided, but you have only to hould up your finger, and you'll have loads of cooks. I couldn't live here, and you knowing what you do about me ! And every time the dog barked, or the bell rang, the terror of him would come over my heart, and I'd be like in a fog, or a dead woman, all out, and no heart in my work; not all as one *as* I used to be when I knew he was safe in prison;

sure, I'd do nothing but watch for a ring of the bell day and night, and afeared to answer it; and not able to let the dog out of my sight, for if he wasn't hung for me, he'd be transported for her. I knew well how you hated black lies, but I committed no falsity about Bizz. I told the bare truth about her; the yard did want a watch, and she's as true as fire to flint. If you'd ask me was she my dog, I'd have said—I think I'd have said the truth; or, maybe I'd have thought it only a white lie. Oh, yes, I know what you're going to say, that no lie can be white. But God bless you, ma'am, dear, for the shelter you gave her! and I hope the Lord and your honour will forgive me, and may the power above keep all young craythurs from even the *shadda* of a bad man, for the very *shadda* stains the snow it rests on. I've seen the rose in June wither away from a blast, and drop leaf by leaf, until nothing was left, but the poor mouldy heart: but that's nothin' to the blight of the young living soul. Wasn't I ashamed to think that man and I war made out of the same sod, neighbours' children, with only one potato-garden betwixt us?"

"Then, it was not that you were ashamed of your country, Mary, that made you deny it, only you were ashamed of your countryman!"

Her face was illuminated in a moment, and she sprang from the ground where Bizz and she had crouched together.

"That's it—God bless you—that's just it."

And then she recapitulated again, glancing at me occasionally, and saying,—"But maybe ye don't believe me, maybe it's thinking of the lies I tould, you are."

Mary volunteered to make a "clean breast," but I saw it was impossible: like us all, in the hidden recesses of her poor heart, something was stowed away, known only to her own thoughts, that refused to come forth. She stumbled in her disclosures, though I asked no questions, but listened to what was told, wondering at the contradictions even in her nature, and seeing amid the chaos, how her devotion to her mother's memory strengthened all that was good within her.

The day soon came for her departure. Bizz's foes pursued her to the last; the morning she left, she did battle with a fierce cat, which so irritated her temper, that for some time it was impossible to get her into a cab, while the magpie kept croaking, "Poor Paddy, poor Paddy!"

At last, Bizz, encircled by her friend's arms, drove off, bestowing on me one of her most emphatic winks, while her lip trembled.

A BUNCH OF FIR CONES.

By W. B. Lord, Royal Artillery.

WHAT say you to being my companion in an expedition to the fragrant pine forests, where the fir needles strew the ground, and form a soft brown carpet, over which we noiselessly wend our way? Solemn stillness reigns amongst the tall straight columns, as in some vast cathedral, and save when some passing gust sings and whistles amongst the feathery foliage, or a chance group of busy cross-bills are encountered, twittering and chirping contentedly to themselves, as they hang parrot-like amongst the branches, and wrench forth the sweet seed from the scale-coated fir-fruit, few sounds disturb the meditations of the explorer. We will, therefore—should you feel so disposed—ramble on together, gossip as we go, and gather such bits and scraps of pine lore as good fortune may cast in our path, and, like our cheerful merry little friends, the cross-bills, glean our harvest amongst the cones. Few trees of the forest are more graceful in form, generally useful, or of more extensive range than the Larch. The Romans appear to have extensively availed themselves of their forest discoveries, and the larches found by them during the German wars were felled and sent from the Alps *vid* the river Po to Rome, for the use of the builders. Pliny, in speaking of the Larch, says, "This tree is the best of the kind that bears rosin. It rots not, but endures a long time." The high estimation in which this description of timber was held by him was not undeserved, for it is related that the huge floating palace built by the Emperor Trajan, as a summer residence on the waters of Lake Nerni, was constructed of larch and cypress, sheathed with lead, fastened with copper nails, doubly planked, and the seams caulked with linen rags, payed over with *Greek pitch* (asphaltum). On being raised from the bottom of the lake, this curious structure was found to be comparatively sound after 1,400 years' immersion. Tiberius caused the naumachiarian bridge built by Augustus, and afterwards destroyed by fire, to be reconstructed with larch planks obtained from Rhætia. Amongst the timber brought from thence, was one trunk of 120 feet in length, which is said to have excited the admiration of all Rome. The painters of very early ages (in fact from the period at which Pliny wrote, to the time of Raphael) intrusted their most costly works to the wood of the Larch, which by the great Roman naturalist is entitled *immortale lignum*. Wrileking, too, in his justly celebrated work on the construction of bridges, says that the Larch is preferable to the Pine, the Pineaster, or the Fir, for constructing the arches of wooden bridges.

Switzerland abounds in larch woods, and nearly all the picturesque châlets, fairy bridges, and hanging galleries, over chasms where the raging torrents lose themselves in foam and mist, are constructed of the tough and trusty Larch. The wooden walls of old England, too, of which we are all so justly

proud, were not, even before the days of iron innovation, entirely "hearts of oak," for we learn that in the year 1809, larch timber, grown by his Grace the Duke of Athol, was first used for the British navy in building at Woolwich Dock-yard the *Serapis* store-ship, the *Sibylle* frigate, the bottom of a lighter, and for piles driven into the mud, alternately wet and dry; and in all the various situations proved a strong durable timber. We find it recorded that the *Athol*, of twenty-eight guns, was also built entirely of larch, of the same growth, whilst the *Niemen*, a ship constructed at the same time, was built of timber from Riga. At the expiration of their first course of service, both vessels were officially examined, when the *Niemen* was found so much decayed as to be condemned forthwith, the *Athol* was re-commissioned, completed her second term of service, pronounced sound, and made a store-ship of, when, for a period of more than thirty years she was subjected to the wear and tear of almost every climate.

The Dukes of Athol paid great attention to the cultivation of the Larch, planting it on the rugged slopes and mountain-sides, where land was well nigh valueless. Some idea may be formed of the unwearied industry devoted by them to larch culture when the reader learns that 14,096,719 young trees were planted in the neighbourhood of Blair Athol and Dunkeld, covering a space amounting to 10,324 imperial acres. The trees grew rapidly, and one felled at 95 years of age was 100 feet high, 10 feet 6¼ inches round the trunk at five feet from the ground, and contained 368 cubic feet of timber. The Duke who first turned his attention to fir-culture did well for those who were to follow, and sowed the seeds of a golden crop. The value of these vast plantations has been roughly estimated at £6,500,000, without taking into consideration the value of the thinnings, which would be rather over £7 per acre. His Grace was buried in a coffin made from one of the trees he loved so well. That selected for the purpose was of stalwart growth, measured 106 feet in length, and was stout in proportion.

Although the Larch is now so extensively cultivated in the British islands, it is not an indigenous tree. The first mention we have of its growth in England is made by Parkinson in 1629, who speaks of it as a rarity.

Evelyn, writing in 1664, mentions a larch tree of "goodly stature," growing at Chelmsford in Essex, but evidently considers it an uncommon tree. Ben Jonson thus notices it:—

> "Yes, I have brought to help your vows,
> Horned poppy, cypress boughs,
> The fig-tree wild that grows on tombs,
> And juice that from the larch-tree comes."

The substance known as Venice turpentine is procured by tapping the larch-trees, and many parts of France, especially in the Briançonnais, the Valois, and the Pays de Vand, yield it in considerable quantities. Large augers are used with which to perforate the trees. The holes usually commence about three feet from the ground, and reach as high up the trunk as from twelve to thirteen feet. Into these holes small wooden spouts are fixed, through which the liquid resin flows into little vessels conveniently placed to receive it. The south side of the tree is supposed to yield better than those exposed to the other points of the compass. Ovid thus writes of the resinous firs:—

> "The new-made trees in tears of amber run,
> Which harden into value by the sun."

And we are also informed that when Tiberius Cæsar built his "Naumachia," or aquatic amphitheatre for exhibiting a naval action as a public spectacle, an enormous larch was brought to Rome, which measured 120 feet in length, and 2 feet in diameter at the smallest end. It is said that the Emperor was so much delighted with the beauty of the tree that he would not permit it to be used, but retained it as an object for public admiration. Nero, however, took a more utilitarian view of things, and when about to erect an amphitheatre for himself, had it cut up for the purpose.

The Forum on which Augustus sat was composed of larch, as were many of the Roman bridges in his day.

Our friends the Russians are so conservative in the matter of larch timber, that its exportation is prohibited. Oak you may have by paying for it; but larch is a government monopoly, not to be lightly parted with. The consumption of American pine in this country is enormous, and serves to impart a most valuable impetus to the commerce of the British American colonies and the United States. The *lumber trade*, as it is called, is a vastly important one; and the *lumberers*, or woodmen by whom the trees are felled, hewn into form, launched on the rivers and sped on their way to the port of shipment, are just as peculiar in their habits and customs as soldiers, sailors, or railway navvies. Bands of them are assembled in the autumn months, and regular expeditions organized. Oxen, horses, axes, provisions, and, in fact, every requisite for the coming campaign, is provided, and transported up the larger streams, either in canoes or boats. Fodder for the cattle is collected on the way, being purchased from such settlers as may have it to dispose of. On the chosen locality being reached, the band, under a selected leader, proceed at once to hut themselves, and erect a cooking shanty and sheds for the cattle. Bark, poles, and fir-branches are made available for constructing these rude dwellings and the stores for their necessaries.

Three separate labour-parties, or gangs, are usually organized. One, with the dexterity only possessed by backwoodsmen, fell the trees, sending the white chips flying, and bringing the growth of ages crashing to the earth:—

> "Sharply sounds the ringing axe
> Far through forest glade and fell;
> Sadly tolls the wood-king's doom—
> Forest monarch's passing bell."

Others lop off the branches and hew the logs into

form for transport; whilst a third party, with the assistance of the teams, draw them to the nearest river or stream, where they remain until the break-up of the ice in the spring. This usually takes place about the month of April. The huge logs are now thrust forth into the current, and kept moving onward by re-launching them when stranded. Each tributary rivulet serves to contribute its quota of floating tree-trunks to the mighty rivers flowing onwards to the sea. Down these, vast rafts are conducted by the hardy crews who know full well how to manage them; men whose home is in the wild pine woods, and to whom the rushing rapid, the giddy whirlpool, and the drift-laden flood are as high roads and turnpikes. The port of shipment being reached, the labours of the lumber-man are ended, and his hard-earned wages due. These, like a sailor's prize-money, are too often scattered heedlessly, when an empty pocket and the opening lumber season send him back to the wilderness again. There are numbers of the cone-bearing family which, although beautiful and most interesting, can by us, during this ramble at least, be but the subjects of a passing glance. Pineasters, Spruces, White and Black Hemlocks, and Balsam Pines, from which the far-famed Canada balsam is procured,—all these shall we pass on our journey. We cannot stay to taste the spruce beer, see the young twigs boiled and fermented with maple sugar, watch the Indians stitch their bark canoes with the tough roots, linger over turpentine, or prepare pitch; we are only wayfarers among the trees, so must travel onwards, and see what is noteworthy about Cedars. Those of Lebanon have frequent notice in the Bible, and high value appears to have been set on them by the ancients. Both Pliny and Vitruvius speak of the use of cedar resin in the treatment of papyrus and the embalming of Egyptian mummies. Diodorus Siculus informs us that Sesostris the Great, king of Egypt, built a vessel of cedar, 280 cubits long, which was covered with gold both within and without. The largest cedar mentioned in ancient history is that which was used to make a galley from for King Demetrius, which was propelled by eleven ranks of oars. Its length was 130 feet, and its thickness 18 feet. The question has been raised as to whether it might not have been an evergreen cypress, but the Cedar appears to have been too well known to admit of the error. Amongst other freaks of a luxurious fancy, we find that the Emperor Caligula had constructed from cedar-wood certain magnificent vessels, which he called Liburnian ships. The poops of these were decorated and enriched with gems and precious stones, the sails were of different colours, and the interiors were most sumptuously fitted up with baths and banquet-rooms, in which were splendid paintings and carved work. One of the first writers of travels who gives any description of Mount Lebanon and its cedars is Belon, who visited Syria about the year 1550.

Thus he writes:—"About sixteen miles from Tripoli, a city in Syria, at a considerable height up the mountain, the traveller arrives at the monastery of the Virgin Mary, which is situated in a valley. Thence, proceeding four miles further up the mountain, he will arrive at the Cedars; the Maronites, or the monks, acting as guides. The Cedars stand in a valley and not at the top of the mountain, and they are supposed to be twenty-eight in number, though it is difficult to count them, they being distant from each other a few paces. These the Archbishop of Damascus has endeavoured to prove to be the same that Solomon planted with his own hands in the quincunx manner as they now stand. No other tree grows in the valley in which they are situated, and it is generally so covered with snow as to be only accessible in the summer."

In Solomon's day Mount Lebanon must have possessed immense forests of cedar, for when he rebuilt the temple of Jerusalem, we find that he obtained permission from Hiram, king of Tyre, to cut down the Cedar and Fir necessary from Mount Lebanon, and that for this purpose he sent four score thousand hewers to cut down the trees. We also read that there was a palace built by Solomon, which was called the House of the Forest of Lebanon, from the great quantity of cedar used in its construction. He is said to have paid to Hiram twenty thousand measures of wheat and twenty measures of pure oil annually while the work was in progress, and when it was completed he ceded to him twenty villages in Galilee. Churchill thus writes of the *Pride of Lebanon*:—

> "The cedar, whose top motes the highest cloud,
> Whilst his old father Lebanon grows proud
> Of such a child, and his vast body laid
> Out many a mile, enjoys the filial shade."

There appears some doubt as to the exact period at which the Cedar was first introduced into this country, and also to whom the honour of first producing the plant from seed is due. Lord Holland writes his opinion that it was first introduced by his ancestor, Sir Stephen Fox; but the weight of evidence collected from old records and MSS. is decidedly in favour of Evelyn being the first who raised young cedar plants from cone-seed in England. He says, in his curious work on trees, that "the Cedar is a beautiful and stately tree, clad in perpetual verdure; that it grows, even where the snow lies, as I am told, almost half the year; for so it does on the mountains of Libanus, *from whence I have received cones and seed* of those few remaining trees. Why then should it not thrive in old England? I know not, save for want of industry and trial." That he succeeded in raising his young plants, the following extract from a letter written by him to the Royal Society, dated Sayes Court, Deptford, April 16, 1684, will go far to prove. "As to exotics," writes he (referring to the severe winter which had just passed), "*my cedars I think are dead.*" It is highly probable that they did not die, and that the celebrated Enfield cedar came from him about that time as a seedling. The Cedar was not introduced in France until the year 1734, when Bernard de Jussieu, who had been visiting friends in England, took two young plants home with him safely curled up in his hat. One of these

was planted on the mound in the Jardin des Plantes in Paris, and the other was for many years entirely lost sight of, until M. Mérat discovered it growing in the grounds of the Château de Montigny, near Montereau, a small town about eighteen leagues from Paris.

> "High on a hill a goodly cedar grew
> Of wondrous length and straight proportion,
> That far abroad her dainty odours threw,
> 'Mongst all the daughters of proud Lebanon."

The Deodara is another exotic cedar of great grace and beauty. We are indebted to the high mountain-ranges of India and Cashmere for this elegant addition to our parks and pleasure-grounds. Its name is derived from the Hindoostanee word *Devadara*, or tree of the gods. The wood is strong and durable. Many very ancient temples which have fallen into ruin, have beams and supports of deodara timber in them but little changed by time. In certain districts the resinous splinters of deodara are used as torches, and carried at night by those who travel amongst the precipices and jungles. For another highly ornamental and, thanks to acclimatization, familiar member of the Coniferæ, the *Araucaria imbricata*, we owe our gratitude to the explorers of the Andes. To the Araucan Indians its pine-nuts yield a wholesome and substantial food; whilst its resinous exudations are extensively used by them, both externally and internally, as medicinal agents. The timber is also very valuable for many important purposes. The trivial name "Puzzle Monkey," sometimes given to this tree, is derived from the numerous needle-pointed scales which cover the stalk and branches, offering such a serious impediment to the climbings and frolics of those lively animals.

Returning for a brief glance amongst the cedar woods and their pleasant shades, the White Cedar (*Thuja occidentalis*) stands before us beautiful as she is useful. Her comely daughters, although tall, stout, and stately as any family of daughters (even of the forest) need to be, sink into pigmy proportions, and become veritable *Minnie Warrens*, when compared with their colossal cousins the *Mammoth trees* of California. These woodland giantesses were discovered in the year 1850, by a Mr. W. Whitehead, in a comparatively small locality about ninety-seven miles from Sacramento City. Here, within little more than fifty acres, stand 103 such trees as the whole known world cannot equal. Twenty of these average seventy-five feet in circumference.

Some few years since, a huge member of this family, known as the "Big Tree," was felled, not by the axe or saw, but by boring a complete circle of auger-holes round and into its enormous mass. Twenty-two days were occupied by five men in completing its overthrow, by the introduction of numerous wedges, when the computed growth of three thousand years came thundering and crushing to the earth. This vegetable Goliah measured 302 feet high, and 96 feet in circumference at its base, and the bark measured nearly a foot in thickness. A double bowling alley has been established on the fallen trunk; and on the stump, which stands five feet six inches from the ground, thirty-two persons danced four sets of cotillons without being in the slightest degree incommoded for space; sufficient room being left for musicians and a fair number of spectators. This curious and unique ball-room, when planed smooth, was found perfectly sound wood, and measures about 92 feet in circumference. The *Mother of the Forest* is the largest now left standing. In 1854 the bark was removed to the height of 96 feet from the ground for exhibition. It measures at the base 84 feet, twenty feet from the ground 69 feet. Its height is 321 feet, and the first branch is thrown off at 137 feet from the earth. Calculation gives the quantity of timber it contains as 437,000 feet of sound inch lumber.

The *Father of the Forest*, who lays prostrate and half-buried in the earth, must have been of even more huge growth than his venerable spouse. His height is computed to have been 435 feet, circumference at base 110 feet, 200 feet to the first branch, and at 300 feet from its root, where it broke in falling, it measures 54 feet round. A number of fanciful names, such as *the Old Maid*, *the Old Bachelor*, *the Three Graces*, &c. &c., have been given by travellers to individuals and groups of these curious and interesting trees, which stand in towering and venerable majesty, like vast monoliths or obelisks reared in commemoration of the past ages of the mammoth and the mastodon.

There are certain primeval forests of pines in the neighbourhood of Astoria, which for the magnificent trees they contain are scarcely to be surpassed. The work of clearing them away for the prosecution of agricultural pursuits would almost appear a labour of ages, so closely do these huge vegetable towers stand to each other. The soil on which these forests grow is extremely fertile. Yet with all the rich supply of natural mould stored up below, it is difficult to conceive how the assimilative powers of the trees could, even through the ages of their existence, heap up and garner the elements requisite to build them up to their present stature; and we are led, on beholding these wonders of Nature's producing, to reflect on the races, dynasties, and nations which have passed away during the growth of these grand old forests. Even the very species of bird or animal by whom the tiny cone seed from which they sprang was perchance deposited beneath the fallen leaves, may, like the Dodo, or the Dinornis, have passed away and become extinct and forgotten, save by the investigator of the earth's secrets.

Unlike the *Sambertiana*, or Rocky Mountain Pine, which bears cones of twelve and even sixteen inches in length, and nearly a foot round, the *Sequoia gigantea*, or mammoth tree of California, which we have described, yields a remarkably small fruit, even much less than that of many cone-bearing trees of this country, still not the less welcome to our bunch of cones, which having roughly gathered on our way, we present as an offering to our reader and companion, hoping that this is not the last ramble we may take together in search of Nature's treasures.

ON SKETCHING FROM NATURE.

By Aaron Penley, Professor of Landscape Painting at the Royal Military Academy, Woolwich.

No. VII. CRUMMOCK WATER, CUMBERLAND.

THE first washes only are given in the present subject, that the pupil may be more easily initiated in the manner in which a water-colour drawing of this description is commenced.

The character of the finished work will always depend upon the under-tints, so that it is necessary to have them of a kind most favourable for the after-tones. I am not without hope that the example given, may serve to show clearly what the appearance of the first stages of a drawing should be, and how it is to be obtained. As in all the previous subjects in this Magazine, the pencil outline has been dwelt upon as the greatest help in producing a satisfactory result; so in the present illustration there must be the most careful attention in placing each individual formation in its right position; and not only in this, but in drawing it with freedom as well as accuracy.

One thing I invariably find the pupil not to pay sufficient regard to (although it may almost appear to many too trifling to notice), is the manner in which the pencil is cut. But there is more in this than most persons suppose. Without a true point, it is impossible to judge correctly of the line to be produced. The wood should be much cut away in a slanting direction, to permit of the eye resting upon the point without interference. Neglect of this is frequently a cause of failure, and it is not an uncommon occurrence that a careless outline carries with it a corresponding manner throughout the colouring. It is to be hoped this caution may not pass unheeded, it being borne in mind that a *clear* line *directs* and a *blurred* line *confuses*, causing much hesitation in laying on the first (and generally large) washes of colour.

The Lake scene under treatment has been selected from its singleness of character, that is, from the masses being large, and their detailed formations easily seen. These have been drawn in with the black-lead pencil to secure the proper forms and position of the several shadows. All deviations from an even surface of ground should invariably be marked, as they serve to denote a variety of flowing, and (at times), continuous lines, and add greatly to the interest of the work. If the tree and foreground be equally regarded, the places for the different tints will be found with ease.

The outline being correct, pass some water over the whole with a large flat brush, and while still damp, lay on a light wash of neutral orange (A. Penley's), or yellow ochre and brown madder, over the drawing, to impart a warm tint. This will also fix the pencilling and prevent its rubbing. When dry, again wash with water, and as soon as the wet disappears, begin the upper portion of the sky with a tint of pure cobalt, carefully leaving the light clouds. Continue the wash by adding a little light red to produce a grey tone for the clouds, and deepen toward the lower edges with more cobalt. This operation should be effected at once; nevertheless, if it be too light, the tones may be subsequently strengthened. A tint of light red, yellow ochre, and cobalt, is to be mixed as nearly as possible to the colour of the warm portion of the mountain, and also a mixture of cobalt with a little indigo for the blue portion.

Commence at the top, with the brush tolerably well filled, carefully preserving the outline, bringing the colour from it into the body of the mountain; then, on nearing the bluer portion, add the mixture of cobalt and indigo, until the whole of the mountains are covered; softening the colour down to the lower edge and *over* the warm tint for the low land and trees. This same blue tint is to be passed over the water, leaving the broad lights. The foreground stones of grey tints are now to be put in with cobalt and light red, varying the proportions to the character of tone required. After this, gamboge, light red and cobalt, more or less of one than of the others, are to be employed for the herbage.

A very light tint of the first mixture with more cobalt added is now to be passed over the greyer parts of the warm colour, and the blue must be deepened with the cobalt and indigo. It will be seen that there is a warm tone on the dark mountains. This should have resulted from the blending of the first tints, by one running into the other while wet; but if the warmth is not sufficient, the first tint may be slightly passed over it again. The line of trees on the low land must now be washed in with yellow ochre, light red, and a little cobalt; also the rocky projection at the right. The shadows of the stem of the tree are of cobalt and light red, and when dry are to be deepened, use the same, only with more of light red: this tint is also to be employed for the dark stones. Gamboge and a little brown pink will give the colour for the foliage; after this, wash a tint of yellow ochre and light red for the colour of the stem, and when dry, introduce the shadows and markings on the dark mountains with the cobalt and indigo, and then another wash of the same (more cobalt) on the second tints of the water.

It is recommended to do this drawing twice over, with a view of gaining manipulative dexterity; and having done so, to lay aside the copy and endeavour to reproduce it from *memory*. This is by far the best way to obtain a practical knowledge of colour, as it will enable the amateur to apply it to his own sketches.

I take advantage of this opportunity to write a few words respecting artists' colourmen of the

present day, and I do so not only for the information of my readers, but also because it affords me a sincere pleasure to speak of them in the highest terms. It is to them that the water-colour painter is indebted for the means of carrying out his most elaborate works, as well as his slighter sketches. Indeed, there is neither hindrance nor imperfection in the material offered to him, whereby he is prevented from giving every effect of which colour is capable, whether in its extreme softness and delicacy, its richness of colour, both pure and broken, or its transparent brilliancy and depth of intensity. To Messrs. Winsor & Newton, of Rathbone Place; Mr. Newman, Soho Square; Messrs. Rowney, Rathbone Place and Oxford Street; Mr. Roberson, Long Acre; and Messrs. Reeves & Son, Cheapside, I offer many thanks for the perfection and purity of their colours, both in the moist and dry states. For permanency, for firmness of texture, evenness of flowing in flat washes, freedom from deposit, or any gelatinous and slimy nature, readiness for use, perfection in numberless combinations, and freshness of tone, it is impossible to wish for any improvement. They have, without doubt, reached the highest degree of excellence to which they can be brought.

However vivid the power of imagination, however intricate or simple may be the subject to be worked out, the water-colours from the above-named houses will be found equal to the task, and will justify the remarks made upon them, as they are in every way calculated to satisfy the wishes and requirements of all—even the most fastidious.

The colours most adapted for the amateur are,—

Chinese white, in bottle or tube.	Rose madder.
Gamboge.	Crimson lake.
* Naples yellow.	Brown madder.
Indian yellow.	Van brown.
Raw sienna.	Brown pink.
* Cadmium.	* Indian red.
* Neutral orange. †	Cobalt.
Light red.	French blue.
Burnt sienna.	Indigo.
* Vermillion.	Sepia.
	* Oxide of chromium.

Those with a * to be half-cakes, or pans.

There are other colours of much use to an artist whose works go far beyond those of an amateur.

† Messrs. Winsor & Newton make this colour.

THE PARIS EXHIBITION, 1867.

THE works on the Champ de Mars have been pushed on with remarkable energy and regularity; the whole of the industrial galleries, or courts, were ready to receive their fittings in the course of December, the roofs glazed, the iron-work painted, and the floors all laid by the end of the year that has just departed.

The plan adopted with respect to the flooring strikes us as somewhat singular. The whole of the passages left for the circulation of the public, those which lie in concentric circles and divide the various groups of the Exhibition, as well as those which radiate at right angles to the former, and supply direct communication between the outer wall of the building to the central garden, are laid in cement, while the Industrial Courts are boarded. Again, the Fine Art Courts have cement floors, while those adjoining, in which the collection of retrospective art is to be placed, are floored with oak parquet.

Cement floors have certainly an advantage with respect to noise and dust, they conduct sound badly and having no spring the dust is not thrown upwards as it is constantly by an ordinary floor; but this latter advantage will probably be neutralized by the constant movement of feet, and especially by ladies' dresses; and it is very fatiguing to stand long on a cement floor. This will doubtless be remedied in the Picture Galleries by matting or carpet, but the same cannot be the case in the avenues of the Industrial Courts, which are pierced at short intervals throughout their whole course by gratings communicating with the great ventilating shafts beneath them. It is a source of congratulation that the report relative to the use of asphalte within the building turns out to have been unfounded, or, at any rate, that no asphaltic floors appear, for in hot weather the effect of these is most fatiguing and disagreeable.

The variety of flooring adopted in the Exhibition will offer valuable means of comparison and hints for the construction of museums and galleries in general, and it is probably with this view that the Imperial commission has made use of four different kinds; namely, common wood, oak, and cement of two kinds, one being what is called *béton aggloméré*, a kind of concrete trodden or beaten down, which is largely used in Paris. The concentric avenues, as well as the vaultings of the ventilating passages beneath are of the latter composition, while the radial avenues are laid in cement. A small house for the Imperial Commission is now being built entirely of this *béton*, in the grounds.

The building will supply many valuable lessons, and, amongst others, in the modes of lighting and in the tempering of the light. The arrangement of the windows is different in each portion of the structure—clerestories in the great Machinery Court and in the principal avenue; lights in the central portion of the roofs, in the Fine Art and Retrospective galleries, and in the lower or outer parts of the roof, in the Industrial Courts. With regard to the graduation or tempering of the light, opaque screens are hung from the tie-rods of the roof of the Picture Galleries, so as to place the spectator in the shade while the light falls on the works on

the walls; while in the Industrial Courts *velta*, or awnings of a thin white material, are being placed here and there, by way of experiment, over the avenues of circulation. It is worthy of remark that the stuff of these awnings is rendered fireproof by a chemical process. Looking at what has happened at the Crystal Palace, it seems almost a crime that any building erected to contain works of art, or any other valuables that cannot be replaced, should be constructed otherwise than fireproof. The Fine Art Galleries of the Paris Exhibition are very satisfactory in this respect; the walls are of solid stone, and the floor, as already stated, of cement, so that a fire is almost impossible.

This consideration of security naturally leads to the modes of closing the Exhibition at night, when the grounds, cafés, restaurants, and other establishments will be blazing with light, and, at times, thousands of people enjoying themselves there. There are sixteen outer doors to the building; and those of the minor entrances are now being fitted with strong iron shutters moved by machinery, like those adopted for shops; there is no doubt that the main entrances will be secured in an equally efficient manner, so that the outer iron wall of the building will be virtually complete. Another precaution is taken with regard to the Retrospective Galleries, each opening of which is being supplied with solid oak doors running on iron rods and provided with strong locks. This must be rather with a view to protect the valuable contents of these galleries from peculation than from fire, for the walls are all of stone and the floor of oak, and the precaution is a wise one.

The colouring of the various parts of the building is proceeding; the inner side of the iron roof and sides of the great Machinery Court, as well as of the principal vestibule and avenue, are being painted of a light chocolate or *café au lait* colour, and the main lines, mouldings, and projections picked out and relieved with chocolate, vermillion, and white, but the effect is not striking. Something of the same kind has been tried on the outside of the building, but has not been proceeded with. The ironwork of the Industrial Courts is now being painted of a dull apple-green, but, with the exception of the avenues, there will be scarcely any of it visible when the fittings are all up. This remark does not, however, apply to the British Department, which will be much less enclosed and boxed up. The walls of the Picture Galleries are painted of a dull Pompeian red, with a broad frieze of a geometric pattern in *grisaille*. The *marquise* around the inner garden has blue-grey pillars, mounted on bold cream-coloured stone plinths, the lines of the columns being relieved with bright chocolate, in harmony with the roof; but the final touch is not yet put to this verandah, which will have a good effect when the enclosed garden is planted.

Quitting the central garden, let us take a glance at the actual condition of the preparations in the three zones of the Fine Arts, Industry, and Machinery.

The first, and inner one, will be filled last, and will be ready in ample time. The greater portion of the rooms on the French side—for in this part of the Exhibition the galleries are broken up into *salons*, in order to afford more wall space—are finished or nearly so; the walls of the rest are being lined with wood, which will afterwards be covered with paper, and finally coloured. The sunshades are also mostly in their places. The admission jury has had great trouble, the space being only equal to about one-tenth of the applications; but the first selection, that of known works not requiring previous examination, has at length been made, though the result is not yet published. The mode said to have been adopted for increasing the hanging space, is the erection of screens in various parts for the smaller pictures; there is one difficulty, however, with regard to such a plan, the centre of the rooms having been thrown into shade by the screens referred to above. There is little doubt, however, that room will be found for all the pictures that the management is very desirous of seeing exhibited, and that our ingenious neighbours will see that their treasures are sufficiently illuminated.

The difficulties which surround the arrangements of the Fine Art department have not been enhanced by the slightest complaint respecting the composition of the juries; the Imperial Commission, as the readers of NATURE AND ART know, left to the artists themselves, or rather to such of them as had received first-class medals, to appoint two-thirds of their judges; the result has been admirable, the juries consist of the *élite* of the body. This principle of art suffrage, applied previously to the annual exhibitions in Paris, has thus received the seal of one of the most trying applications that could possibly have been made of it, and must be regarded by all unprejudiced persons as established almost beyond question. Knowing how completely unsuccessful was the old system of official and academic nomination, we trust that it will be gradually banished from all art competitions of a general nature. It is not a small matter to relieve the world of art from all feeling, or even suspicion, of partiality or nepotism; a feeling which is a prolific source of coteries and consequently of cabals.

The great central zone, or rather series of zones, devoted to industrial products of all kinds—from a block of coal, to a chronometer—perhaps one of the most perfect examples of skill and science combined—is in a more advanced state than that of its mechanical brother beyond, or than those of its artistic sisters of the inner ring. In the French department nearly all the courts are formed, and several of them are nearly ready for the decorator; the cases in which the gold and silver smith and two or three other classes of exhibitors will show the products of their cunning arts are in their places, and only require glazing and painting; those which are in this forward condition exhibit careful arrangement, and there is no doubt that our neighbours will be still more remarkable than ever, on the present occasion, for the symmetry of their installations as well as for the beauty of their

products. In some cases the effect of these courts will be rendered more complete by the introduction of oak parquetted floors in the avenues and spaces not covered by the cases. Everybody who visited the Exhibition of 1862 will remember the admirable effect of the tiled and mosaic floors laid down within the courts of some of our great porcelain and pottery manufacturers.

The portions of this section of the building devoted to the Foreign commissions, also mostly exhibit great activity; much of the woodwork of the Belgian, Russian, Swedish, Danish, Turkish, Egyptian, Italian, Chinese, and Japanese courts being almost completed, and in some, the Egyptian for example, heavy articles of exhibition which have to be built up, are being proceeded with.

In general, in order to obtain as much wall space as possible, there are too many high partitions, and, consequently, in those parts there will be little perspective and effects of *coup d'œil*; but some of the commissions, and that of Russia in particular, have avoided too much enclosure. The Russian department will be remarkable for its openness and, consequently, unobstructed view and light; it stands at the side of one of the great radial avenues, and its limit is marked by a bold and highly effective ornamental wooden railing, cut by hand in the peculiar style of the country, the bases of the plain iron columns of the building being enclosed in massive woodwork corresponding with the railing, and mounted on octagonal stone plinths; but the most characteristic constructions belonging to Russia are in the *parc*, to which we shall presently proceed.

The last department at which we arrive in making the circuit of the building, commencing with France, is that of Great Britain, and that at present is an empty space. We know that English workmen do not allow the grass to grow under their feet when they do begin, but we trust that all our preparations are so well considered, that commencing last we may be ready first; and, as the space devoted to the United Kingdom is the largest by far, next to France, we shall be pleased to find it not too much subdivided, and, consequently, presenting a more imposing whole than its neighbours, and at the same time presenting a little more general design than has usually been apparent in our exhibitions; the jewel is certainly the main attraction, but the setting can never be carelessly arranged without derogating from the effect of the work. The sappers are marking out the floor, on which may now be read the names of many well-known firms.

Leaving the Industrial Galleries for the great outer Machinery and Process Court, we find evidence of the hand of the British Commission, a portion of the exterior Alimentary Gallery having been taken into the Machinery Court by means of a wall beyond the circumference of the latter: by this arrangement considerable space will be added to the Mechanical department at the expense of the Alimentary Gallery, which we presume does not require it. The wall will be covered by the erections without, so that the general effect when all is finished will be in no way interfered with by the arrangement.

The general preparations of the immense Machinery and Process Gallery, including an amount of work which it shows great courage to have undertaken in so short a space of time as was allowed for it, are almost completed. Along the whole of the central line of this court, which, be it remembered, is nearly five thousand feet in circumference, have been set up two rows of cast-iron pillars, not very wide apart, and connected above transversely as well as longitudinally with lattice girders; at the sides, a little below the upper surface of the girders, are large iron brackets, intended to support the driving shafts and pulleys for the machinery in motion: and on the top of the girders will be a gallery, more than ten feet wide, for the convenience of visitors, who will thus be enabled to make the tour of this important portion of the Exhibition, and view the machinery and more prominent processes very advantageously. This gallery was a happy thought, for, as the public must otherwise have been excluded from this central portion on account of the driving machinery, it will make a very large addition to the means of circulation. There will also be a passage below between the columns of the gallery.

In some parts of the Machine Court, solid foundations are being constructed for engines and other heavy objects, but not very much has yet been done in that way, and a vast amount of work remains to be accomplished. The future progress in this part of the Exhibition will be greatly aided by the auxiliary measures adopted by the Imperial Commission; a temporary railway is being laid down around the building and a similar line of rails is being placed just within the Machine Court itself, and which will also be carried all round: these two railways will be connected by means of small branch lines at right angles to them and of which the turn-tables are being fixed. Pieces of machinery, goods, and materials arriving by rail at the station just outside of the *parc*, will thus be carried directly into the building to the very spot where they may be required. The time that will be saved and the interruptions that will be avoided by this arrangement are most important considerations; the scenes that occur in other parts of the grounds at present, where it takes three or four horses to pull a one-horse cart out of mud-holes, will thus be happily avoided.

Without the building the new feature of the Alimentary Court with its mile of covered terrace, or boulevard, is beginning to assume its intended appearance. The whole of the fronts of the French refreshment establishments are in place and ready for the painter and glazier; they form two immense ranges, and are in all, about eight hundred feet long, and thirty-two feet broad. They include a *grand café*; a restaurant on the same large scale; a *Dîner de l'Europe*, that is to say, not exactly a *table d'hôte*, but a dinner, of which the bill of fare and the price are fixed, but which is served at any moment; a *Buffet de l'Univers*, which, if as well

organized as some of those at French railway stations, will be an estimable boon to those whose time is precious, and who have some respect both for their purses and stomachs; and, lastly, a Strasbourg beer-house. The counters for the managers of these establishments are now being set up, and, before this comes under the public eye, some of the establishments will be in operation for the convenience of those whose fate compels them to spend much of their time within the yet inhospitable building and its *pleasure* grounds, where Boreas, Aquarius, and Jack Frost at present revel and reign alternately, and use weak mortals most unceremoniously. On the English side there is no silver gridiron yet, nor any corner even for a snack or a draught, but there is a promise of something to come, in the form of a strip of white calico on which appears the word *Buffet*, in conjunction with the names of Spiers & Pond, and Bass & Co.; the space thus marked is not so extensive as those covered by the French establishments, but its frontage is not much less than a hundred feet in length. But this is only one of three or four British places of refreshment to be provided. The Russian and the Swiss *restaurants* are also being built.

Out of doors the work is naturally not so much advanced as it is within the building, and it is extremely fortunate that the walls of the most important buildings are nearly all completed, for the sharp frost which has set in renders mortar and cement very intractable servants as well as inefficient. Of all the novelties to be found in the gardens of the Exhibition, the aquariums will be amongst the most remarkable, and particularly that to be devoted to "herrings and other salt fish," as a comic French writer once described the denizens of the ocean. The tanks in which they are to be exhibited are constructed entirely of iron and glass. A large artificial cave was first formed by throwing up a *talus* all round the spot; the sides of this cave were then lined with rockwork, and a number of pillars of the same placed at intervals on the floor. Over all this was laid a roof composed of iron and glass, leaving two openings through which flights of steps lead to the cave, and a central space for the visitors. The aquariums are placed all round, and on the glass roof of this central area. There are also terraces near the upper level of the tanks, while at the two ends the roof of the cave forms, are platforms of considerable size; it will be seen that by this arrangement visitors will be able to watch the movements of the fish from almost every position, above, beneath, and around. The large contents of this aquarium rendered the supply of sea water a matter of serious consideration, and therefore a system of aërating it has been adopted; the water of the aquarium will run over and form a cascade, it will then be received in a well and pumped back into the aquarium, and by this means it is hoped that the creatures will be maintained in good condition without a very large supply of fresh sea water.

The arrangements for the exhibition of fresh water fish and reptiles are of a totally different nature; in this case the building is of stone, the whole of both sides being divided into compartments which will be glazed only in front, like those in the Jardin d'Acclimatation in the Bois de Boulogne. This aquarium is connected with a lake, and from the latter starts a small canal which pursues a tortuous course through the grounds passing secretly beneath the roads and pathways, crossing and enlivening the plantations and flower-beds by the flow and sparkle of its silvery stream, till it reaches the great lake at the other extremity of the *parc*.

At the further end of this lake is a large mass of artificial rock, over which a cascade will fall, and upon it stands an iron lighthouse of considerable height: this is for the exhibition of the electric light and it is now ready to receive its lantern. Another lighthouse erected in the grounds at no great distance from the former will allow of a comparison being made between the old dioptric and the new electric system.

The small model church, which stands in this quarter of the grounds, is finished exteriorly, and presents a very pretty object: complaints have been made that it exhibits no style, or rather a mixture of all styles, but this is an unfair charge, as the mixture of style is one of its objects; there are semicircular, Early Pointed, and other shaped windows, brackets, niches, and colonnettes belonging to various periods, and the same is the case inside as well as out; but then it must be remembered that the object is to show ecclesiastical construction, decoration, fittings, and furniture of all styles, though in normal positions. In spite of the mixture, the architect has produced a pleasing general effect,—that is to say, as regards the exterior, for the interior is not yet in a condition for criticism—the principal thing to be complained of being, that the most ornamental face of the building is so near the lake that there is some little danger of taking an unintentional bath while studying architecture. There is no doubt that this model church will be one of the most attractive objects in the grounds.

On one side of the main avenue leading to the chief entrance of the building, and opposite the Oriental Pavilion of the Emperor of the French, a solid rectangular building, with pointed gables, which, in the language of the place, is the *Pavillon de la Reine d'Angleterre*, is rapidly approaching completion. This royal lodge consists of one large apartment in the rear, with two smaller ones at right angles to the former in the front, and presents one of the most positive contrasts imaginable to the Byzantine structure opposite to it. They are neither of them yet far enough advanced to describe more particularly, except that one structure consists entirely of right angles, while the outline of the other has scarcely an angle in it, and while one is of wood, to be highly decorated, the other is of solid stone, relieved by red bricks, and covered by three decorated timber roofs. Near the English Pavilion stands the chimney-shaft and the foundation of the boiler-house—a very large one, to be fitted with the patent conical tube boilers of Messrs.

Galloway & Son, of Manchester, for the supply of steam to the engines which are to drive the machinery in the British department. This will be the largest boiler-house in the grounds ; and the design for it is derived from a Mohammedan temple. The Emperor of the French sets up his standard over a Turkish Kiosk, and Great Britain places her steam boilers in the mosque of Syeed Oosman ! What is the mixture of half-a-dozen styles in a model church after this ?

Not far from these Imperial tents, over which the standards of France and England will float as bravely as did those of Francis and Henry on the Field of the Cloth of Gold four centuries ago, stands a building, presenting a further contrast ; it is an odd-looking structure, and is to be occupied as a Swiss refreshment-room, the attendants to be dressed in their national costume. The Swedish Commission will have a smaller establishment in their quarter of the park.

This portion of the ground is crowded with buildings ; there are three photographic establishments all of considerable extent, and one very large ; the International Club-house will be ready in a few weeks to receive its subscribers ; and the theatre, after two reverses of fortune—theatres are well accustomed, however, to ups and downs,—has its outer walls nearly completed.

The buildings of the Egyptian and Tunisian Commissions make a great feature in the grounds ; the former have already been described in NATURE AND ART, and the latter must wait another opportunity. Russia has conceived a happy idea and is carrying it out on a grand scale and with remarkable skill ; three buildings are being erected in a group, two of these are dwelling-houses, and the third and the largest a model stable, all constructed of round timber, prepared in Russia, and put together like a puzzle by Russian workmen, who themselves are picturesque objects, with their red guernseys, woolly waistcoats, showing the lower part of a shirt or tunic of striped stuff beneath, knickerbockers, and round fur caps. The structures, besides exhibiting the style which has been used for centuries down to the present time, show the peculiar arrangement of Russian dwellings and establishments. The ground-floor of the house is devoted to the housing of cattle during the winter months, the door is just large enough to admit the beasts, the windows are small and square, and the apartment low, having more the appearance of a cabin in the stern of a ship, with three lights at one end, than anything else ; the room above the cattle layer is the general living-room of the peasant farmer and his family. In one part of the latter will be erected a great stove to illustrate the Russian mode of heating their houses, and in another will be the *rousse* corner, the little chapel, or place of the household gods. The stable is a building two hundred and fifty feet long, and about twenty-four feet wide, and will contain ten horses, types of the various breeds of Russia, and fourteen choice animals of different origin. The arrangement of the stalls, so that the animals may show their sides, instead of their tails, to the public, those for ventilation and for the complete surveillance of the whole of the stable by the men who sleep, like the *palefreniers* of the great Paris omnibus establishments, in niches six or eight feet from the ground, will be examined with great interest by English visitors. The decoration of the buildings is also interesting, the false roof of the stable and other parts are carved and pierced in the peculiar semi-oriental style in vogue in Russia, and the gables of the houses are decorated in like manner. The method of construction, for which the axe alone is used, and the system of corking and stopping the seams, deserve the serious attention of colonists and emigrants. The exhibition of the malachite products of the Imperial factories gave great interest to the Russian department in the Exhibition of 1851 ; but the admirable illustrations to which we have referred of the buildings and habits of the Russian people should, and doubtless will, attract at least as much attention.

The Swedish Commission is also erecting similar model buildings illustrative of the architecture, mode of construction and habits of the country, in times past as well as in the present day, including a complete reproduction of the house occupied by Gustavus Vasa, at Ornacs, in Dalecarlia, with all the furniture, some of which is authentic. But the Swedish portion of the *parc* will demand further notice, at a future period, when the works are more advanced. A small steamer, model of those used on the Swedish lakes, brought to Havre by the frigate *Orœdd*, is now on its way up the Seine to Paris. But it is dangerous to touch on what is expected, while every day brings some new object of interest bodily before the visitor to the Champ de Mars.

Before quitting the limits of the Exhibition, it is but fair to say a few words on the admirable arrangements made by the Imperial Commission for the convenience of visitors, whether they arrive by road, rail, or river. First, for those who arrive in carriages, a long covered way is now being constructed at the outer edge of one side of the park, beneath which half a dozen vehicles may set down their occupants at the same moment, and from this three other passages lead to side doors of the building ; those who arrive by rail will simply have to cross a road, over which a roof is to be thrown, and make their way into the building by means of a long *promenoir*, or covered passage for pedestrians, which skirts the grounds and ends in a large vestibule at one of the principal side entrances of the building ; lastly, for those who are borne on the bosom of the flowing Seine, a spacious landing-place is being constructed, from which visitors may either ascend to the quay and there enter Exhibition Park by the front gate, or they may pass directly into the grounds by a gate beneath the pretty steel bridge lately thrown across the quay.*

* On the quay, or rather over the strip of land at the side of the river, two very large buildings have been erected : these are to be used as restaurants, and one of them, it is said, is to be managed by English caterers.

UXOR ET LIBERI IOHANNIS HOLBENII.
CIVIS BASILIENSIS PICTORIS EXIMII.
Ad Tabulam Ioh: Holbenii in Biblioth: publ: Basil: adservatam.
H. Holbein pinxit
B. Hübner sculp. 1790.
Basileæ apud Chr. a Mechel Chalcogr.

Hans holbein d: maller
IOHANNES HOLBEIN
Civis Basiliensis immortale
Natus Anno Domini 1498.
I.F. PICTOR CELEBER
Patriæ Britanniæque Decus
Denatus Londini Anno 1554

HOLBEIN IN GERMANY.*

By H. Ward.

PART IV. BASLE—*concluded.*

ON the 23rd of September, 1520, Holbein was formally admitted into the Guild of his craft, which was distinguished by the name of *Heaven*, being called "Zum Himmel." He painted his own shield for the hall, where it is still preserved. It is yellow, bearing a black bull's head, surmounted by a red star; and over it is the inscription, *Hans Holbein the painter* ("der Maller"). He was a hearty young fellow, as we can see by Mechel's engraving of his self-portrait. The drawing which he made for it has been photographed, and it has a more spiritual expression. His brain was teeming with beautiful and lively fancies; and if his tongue was only a tithe as ready as his hand, he must have been a famous Guild-brother. He was evidently welcome to the other members of his Guild, whether saddlers, barbers, or painters; for even before his formal admission he was chosen (25th June) as one of the two house-stewards for the year. His colleague was a saddler, and their successors were another saddler and a painter named Johann Herbster. The latter was a man of some local reputation: the records of him are few, but they contain fresh hints for tracing the connection between Holbein and Italy. Herbster had been a master painter at Basle ever since 1492; and he had travelled, at least as far as Pavia, in 1512. Now, according to a dated portrait,† he sat to Holbein in 1516, when the youngster was hardly settled at Basle. The talk of such a sitter may have induced his painter to follow in the same Italian track; but on the other hand, for ought we know, Holbein's fullest acquaintance with Leonardo da Vinci, and also with the Carthusian convent at Pavia, may have been made through the portfolio of Johann Herbster.

The barbers do not appear at all among Holbein's colleagues, as far as Dr. Woltmann's extracts go; but a glazier unexpectedly makes his appearance. Thus, one of the two great northern artists took rank among ordinary tradesmen. He could never hope to rival such great grocer-barons as the Fuggers of his native Augsburg. And what said the other great northern artist, Albert Dürer, when (in 1506) he was on the point of returning home from Venice:—"Oh, how I shall freeze for the sun! Here I am a lord, but at home a spunger!" Dürer was fortunate in having a patron who could heartily sympathize with his grievances; and it was to him, Bilibald Pirckheimer, that the simple-minded artist lamented his being a mere "spunger." His gift of high imagination had its usual drawback, vanity; and he was consequently very thin-skinned. We suspect that Holbein was much more robust. It is said (it may be mere gossip, but the story is probable enough) that, on his revisiting Basle, after his first flattering reception in England, the upper circles offered to introduce him to their wives and daughters, and were disgusted at his preferring his old pot-companions. The Guild-brethren were doubtless these pot-companions of his; but they may have been something better too,—true friends perhaps, who had helped him at a pinch. Thus the story has two sides to it. The candid biographer, Charles Patin, who relates it,* adds that Holbein was a downright toper; but he luckily gives his authority for saying so; and we shall presently show that the words of Erasmus, which he quotes, were nothing but a small joke, uttered in exchange for a small joke of Holbein's.

We leap at once into a different sphere when we turn from the poor painters' Guild to the circle of Erasmus. He was fond of the arts, and had himself been something of a painter in his youth; yet he was not likely to consort much with German artists. One or two of them may have equalled him in native genius, but his scholarship had raised him high above their level. Not that he cared a straw for pomp or place; indeed, he dreaded them. Splendid offers had been made him from many courts, especially from that of Rome; but he preferred Basle. He esteemed it a veritable "Seat of the Muses," aloof from the bigotries of Papist and anti-Papist. There he lived at ease, in the house of Froben the printer, making it a centre of learning and social refinement. Of all the portraits of this "little old mannikin," as Albert Dürer called him, none pleased him so well as those by Holbein. One of the best is that at Basle. His naturally spare features are sharpened by thought and study; and his great work lies open before him,—his edition of the New Testament; yet there is a suppressed smile upon his thin lips. We feel that he cannot altogether subdue it, in spite of his veneration for the text; for passage after passage recalls to him some scholastic nonsense of the commentators. To purify the text and scourge the commentators was his main business at Basle. But there is another book of his,—a small one indeed, by comparison,—that is more personally connected with Holbein. This is his *Praise of Folly* ("Laus Stultitiæ"), a work that soon ran through many Latin editions, and has since been translated into most of the modern European languages. It is sometimes

* *Holbein und seine Zeit:* von Dr. Alfred Woltmann. Erster Theil, mit 31 Holzschnitten und einer Photo-lithographie. Leipzig. 1866.

† In Mr. Baring's collection. See Dr. Waagen, *Treasures of Art*, vol. iv. p. 97.

* In his edition of Erasmus's *Laus Stultitiæ*. Basle. 1676.

known as *Moria*, from the Greek word for *folly;* and it is dedicated to Sir Thomas More, as a fool (Morus) in name, if in nothing else. The most precious copy of the work is one belonging to the edition of Froben (1514), preserved in the museum of Basle; it is adorned with eighty-three pen-and-ink sketches by Holbein.

The immense success of the *Praise of Folly* would surprise the modern reader. Its mythological quips and its critical paradoxes would seem stale or pointless to him. Yet the spirit of the book is modern, and reminds us of Thackeray and his *Book of Snobs*. It was intended to satirize very different vices, and to amuse a very different public. The discourse is general; the periods are rounded; and the style is altogether rhetorical, often vehement, and sometimes coarse. But still there is much of Thackeray's manner, in the mingled cynicism and geniality with which the author greets his brother fools. We will attempt to give a very brief abstract of it, without making a literal translation of any passage. A large audience is assembled, waiting with knit brows for some solemn lecturer,—when Folly bows to them from the rostrum, and their faces expand. "I perceive," she says, "that you were expecting one of my inferior professors; but I have found time to come in person; and I have chosen the theme most worthy of your attention; namely, the praise of myself." She makes a long exordium to prove her superiority to all the Olympian deities, especially to the Goddess of Wisdom, who was nothing but the offspring of a headache. "If you ask me," she continues, "where are my temples, I answer, within yourselves. I am content with the unconscious worship of my votaries. When my son, the Emperor, is seated on his throne, I lend him my cap and bauble: the boor adores them as the insignia of divine authority; and I bless him, and he is happy. When my son the Pontiff has set up a new idol, and its paint glows in the broad sunshine, the boor's wife lights her farthing candle before it; and I bless her, and she is happy." Folly proceeds to show the supreme blessedness of vanity, whether individual or national. Thus, the father admires the reflection of his ugly self, in the little squeaking puppet which is placed in his hands. Thus, the Englishman brags of his fair women, his fine musicians, and his dainty dishes. This clause, we must stop to remark, was not meant to be quite so ironical as it sounds now; for at that time England did really enjoy a good reputation for music and cookery. To return to the lecture-room. Folly confesses that she is tempted, now and then, to chastise some of her forgetful children. She sometimes sees a grave judge, or graver pedagogue, stalking across the market-place; she suddenly looks round the corner in the shape of a buxom lass, and he catches her eye, and stumbles, and does penance in an old market-woman's basket of eggs. For the more hardened reprobates who have absolute faith in their own wisdom, she reserves a much more awful punishment: she confronts them with one another. Hence arise wranglings and bloodshed; hence the rack, the dungeon, and the stake. She then resumes her pleasing topic, the praise of herself. She enlarges upon Solomon and other first-rate authorities in the most approved style of the followers of Duns Scotus. She takes occasion to commend one of her sons, her best Erasmus. Finally she extols her plump darling, the genuine swine of Epicurus' sty: and contrasts him with the lean scholar, so absorbed in his midnight studies that he mistakes his oil-flask for his wine-bottle, and dies at his book for lack of a dinner. "And so farewell," she concludes, "and enjoy all fruits, except that of the tree of knowledge: laugh and grow fat, my loving children and beloved fools."

All the points upon which we have been dwelling were illustrated by Holbein, from the first bow of Folly to her last wave of the hand. Her mock professional airs are excellent, and so are the gestures of her hearers, whether they are grim with idiotic attention or frantic with idiotic applause. Most of the other designs have rather disappointed us; but then we have only seen them in engravings; and photography alone could reproduce these trifles of a master hand. Dr. Woltmann says that they were evidently dashed in at various periods of leisure. They are always carelessly, though well drawn, and the ink differs in different places. It is amusing to guess how Holbein could have understood the Latin text. We are inclined to agree with Hegner,* that he must have gone through it with a learned friend. This may have occurred during his stay at Lucerne, and on the title-page is the signature of Myconius, who was then a famous schoolmaster at Lucerne. Myconius has added the inscription, "Hanc Moriam pictam decem diebus, ut oblectaretur in ea, Erasmus habuit," which surely means simply that Erasmus kept this pictured *Moria* for ten days, in order to amuse himself with it. Dr. Woltmann believes that somebody had presented it to Erasmus, and that at his death it came to Myconius. Our own belief is that it belonged to Myconius from the first, and that Holbein read it with him, and made the sketches at Lucerne. It was then lent to Erasmus, who returned it after scribbling a word in it, to which a most absurd importance has been attached. Against the figure of the half-starved scholar, Holbein had printed the name of Erasmus. The latter looked for the fat pig of Epicurus; he found it portrayed as a gross man, with one hand on a woman's shoulder, and the other lifting a bottle to his mouth; and to this he affixed the name of Holbein. Such an interchange of small jokes might have been made between the most respectable churchwardens in the world. And yet this is the evidence brought by Charles Patin to show that Holbein was a sot. Really, if it were evidence at all, it would be in his favour, for one might fairly argue that Erasmus, a man of the highest social dignity, would never treat a drunken ribald with such familiarity.

Gossip is a hydra, whose filthy hands sprout up

* *Hans Holbein der Jüngere*, by Ulrich Hegner. Berlin. 1827.

like mushrooms. Hegner gives two or three more instances of it; one of which is worth mentioning. Down to the middle of last century, so wasteful of its Holbeins, there was a house at Basle, known as the *Dance-house*. On a broad space above the first-floor windows was painted a band of country lads and lasses, crowned with flowers, and dancing lustily to two bagpipers. The place had been a tavern, people said, where Holbein had paid a long reckoning with his brush.

But they forgot to observe, adds Hegner, that the whole façade, three stories high, was covered up to the garrets with frescoes. The decorations were festive, and some of the mythological figures might have suited a wine-shop; but, next to the dancers, the most prominent object was Marcus Curtius on horseback, plunging into the gulf. The oldest mention of the building (in 1577) merely calls it "a private house." Some water-colour copies of it, and a tracing of the original sketch, are in the Basle Museum; and there also remain two or three studies of separate portions, which prove that Holbein reconsidered and improved his plan with his usual attention to the minutest details. This toilsome execution of many great works, together with numberless designs for jewellery, glass-painting, carving, &c., must have occupied most of his hours. Year after year he worked on patiently, till the plague cut him short in mid career; and his conceptions were rich and beautiful, his eyes fresh, and his hand steady to the last. His works ought to outweigh a thousand scandals: they bear witness that he had a strong taste for joviality, but no more than was becoming in a young brother of the Guild of Painters. Indeed, he was probably more refined than any of the brotherhood. He was a painter of realism, but mostly in its nobler forms; and his art, even in undress, is comparatively pure. Among the drawings in the Basle collection, those of Urs Graf and Nicolaus Manuel, and others, are often, we are told, unfit for description; whereas those of Holbein are very seldom coarse, and never obscene.

What a pity that such a man should have left *one* blot on his memory that can hardly be cleansed away. We allude to his neglect of his wife. There were extenuating circumstances, no doubt, as there always are. She was vulgar and ugly, as we see by her portrait; and in all probability she was much older than her husband. Nothing has shocked Dr. Woltmann more than discovering that she was a widow, with a half-grown son, when she married Holbein, and that her name was Elsbeth Schmidt. These would have been valid reasons for Holbein's avoiding her, as long as she was widow Schmidt; but they became invalid as soon as she was Mrs. Holbein. Other excuses present themselves, as at least not impossible. He could not have been much more than twenty-five at the time of the marriage: and young men of genius are often more easily entrapped than common-place people. Again, her eyes are red, says Dr. Woltmann, as if with weeping. May not the cause have been less sentimental? She is reported to have been a shrew; may she not have inflamed her temper and her eyes by emptying some of the bottles which have been laid to the charge of Holbein? Such things *may* have been; but we must beware, lest we, in our turn, should be scattering the seeds of calumny. There is really nothing known against the poor woman, except her bad looks, her widowhood, and her big boy. As to the date of her portrait it must have been about 1526-9. It was painted in oils upon paper; the figures were afterwards cut out, and pasted on wood; and in doing this the last cipher of the year was clipped away, so that it now stands 152–. The boy at her side is Philip Holbein, whom his father apprenticed to a Parisian goldsmith in 1539: he has rather a whining look, but not otherwise a bad countenance. The childish action of his little sister is excellently rendered, and she is shapely, though not pretty. The homespun attire of this family group, artistically considered, is worth whole wardrobes of cloth of gold: and the flesh-colours are Titianesque. The sitters were treated with tender care, as sitters, but not, we are afraid, as objects of daily concern. Holbein did not desert his wife: he maintained her, and twice revisited her; but she never joined him in London. The natural consequences followed. In 1543, when he was moved by fears of the plague, which were soon to be too well justified, he had to do his best to provide for two nameless little children. But we are anticipating the dismal end. It lies far beyond the scope of our present series.

Our story of Holbein in Germany would be very incomplete if we said nothing more of Bonifacius Amerbach. His father, the well-known printer, had nourished one great ambition,—to produce noble editions of St. Augustine and St. Jerome. He had published the whole of the former; the publication of the latter had been interrupted by his death, but it was completed by his three gifted sons. Bonifacius, the youngest, was born in 1495; the same year as Holbein, if our new chronology is correct. He played a leading part at Basle as a lawyer and politician. His talents had been early developed; and his tutor had more than once commended him to the notice of Erasmus, as a "thorough Erasmian." In one respect he was superior to Erasmus: he was a man of high moral courage. His portrait, considered by some critics as the most perfect of the Holbeins at Basle, displays him in the flower of young manhood; for it was painted in 1519, when he was twenty-four. His eyes are small, but of the purest blue; his features are well chiselled, and their vigorous beauty is heightened by the silky curls of his auburn beard. His manners are said to have been singularly engaging. His gifts of mind and body won the admiration of the day; but it was the stanchness of his heart that preserved his memory. The world has clean forgotten how he used to lead the song and dance to music of his own; and he has left few traces of his erudition behind him; but he will long be remembered as the great collector of the works of Holbein. He bought what no one else would buy,—the *Dead Christ*, for instance, which was unfitted by its stark

reality for either church or banquet-hall; and when Holbein was absent in England, his wife and children found a ready friend in Amerbach. He seems then to have made a clean sweep of the studio. His chief prompter was friendship, but it acted in accordance with his taste. His house at Little Basle (on the right bank of the Rhine) was a gallery of art. A few objects were added by his son, and the contents were purchased by the Town Council in 1661. They consisted of forty-nine paintings, and a cabinet with thirty-seven drawers full of sketches and engravings, together with coins, ivories, and various precious curiosities. Holbein was represented by fifteen of the paintings, 104 of the drawings, a sketch-book, the illustrated *Praise of Folly*, and duplicate copies of his biblical designs and his *Dance of Death*, besides 111 of the other wood-engravings. One of the paintings, a *Last Supper*, which we described a month ago, was in fragments: they are supposed to have been rescued by Amerbach from the religious mobs of 1529. But we have now to tell of a much greater work, which no care could save. It was destroyed by damp, an enemy to northern art more fatal than even bigotry.

The 15th of June, 1521, bid fair to open a new epoch in historical art. On that day Holbein received a commission to fill the new Town-hall with great works in fresco. There were eleven spaces to be filled, six of them broad, and five narrow. Two of the broadest spaces were left untouched for the present. The rest of them were filled before the end of 1522. The four great subjects, which were then completed, were drawn from classical story. Republican virtue was exemplified by Curius Dentatus rejecting the Sabine gold. Contrasted with him was Sapor the Persian, a type of the brutal arrogance of kings, trampling on the neck of the Emperor Valerian.

Obscurer legends of the Greek republics of lower Italy furnished the two other subjects: they were scenes of self-sacrifice, in stern submission to the law. In the five narrow spaces were single figures:—1. Christ, with a tablet in His hands, charging us all to do as we would be done by;—2. David, harping, with a scroll over his head, exhorting men to judge righteously;—3. 4. and 5. Justice, Moderation, and Wisdom. It will be observed that the large subjects were all political: and this was not altogether owing to the character of the locality. At the time when these were designed, the Protestants (as they were soon to be denominated) had made their way into the town council; but they were by no means supreme there. Indeed, the Burgomaster was a rank Papist, no less than our old friend Jakob Meyer. The two religious parties were united for the time by political sympathies. In this year they effected their common object. The bishop and the aristocrats were deprived of their last privileges. The town-hall was triumphant; and democracy, pure and simple, was depicted upon the walls. The case was altered when Holbein supplied the two deficiencies in 1530-1. Both subjects were then taken from the Old Testament; and one of them was quite after the heart of our own Puritans; it was Saul rebuked by Samuel for not hewing Agag in pieces.

These magnificent frescoes were the wonder of a generation; but before the end of the century they were frightfully scarred by damp. Other artists tried their colours over those of Holbein; but at last they were all charitably covered with green cloth. Out of two or three little bits, and a few drawings, and the town-hall account-books, Dr. Woltmann constructs a very interesting history. But we can only commend it to our German readers, together with the notice of the organ-screen of the cathedral. There are other topics which more emphatically demand our attention.

In the summer of 1521, the burghers of Basle had plenty of local business upon their hands; yet still they could not fail to be profoundly agitated, by hearing of Luther's triumph at the Diet of Worms, and of his mysterious disappearance after it.. He subsequently reappeared at Wittenberg, safe and sound, as all the world knows: but for many months even the wise heads were puzzled, and the simple ones were driven quite crazy. At first the Reformers were aghast; but they soon recovered heart, and their energies were only fevered by the agitation. At Basle there was a priest, who preached openly against the mass, and waylaid a procession in the streets, calling the relics "mere dead men's bones." The bishop demanded his arrest, and his congregation, in their turn, defied the bishop. The town council interfered, and managed to edge the priest out of the city. But another soon took his place; and at the close of the year arrived Œcolampadius, the true apostle of the Reformation at Basle.

Meanwhile a sort of revolution had been effected in the town council. Jakob Meyer, though a zealous Catholic, had assisted in stripping the bishop of the last shadow of civil supremacy. He had thus become himself the chief magistrate of Basle. But his seat was a shaky one. In the October of the same year (1521) he was accused of taking bribes from the French king. It was common enough for the magistrates of a free city to receive a *pension* from one of the neighbouring princes. The members of the lesser council of Basle received fifteen crowns apiece; but Meyer had accepted a larger sum. He was compelled to disgorge the surplus; and he was dismissed from office. This was a fine stroke for the Reformers, and won them the Burgomastership. Meyer struggled defiantly against the stream for a few years longer. He enlisted troops for the French king, or for the Pope, as he had done before; and he led them himself into Italy: he returned to Basle, and we hear of him in 1529, the year of the fanatical iconoclasm, when he was the spokesman of the Catholics. Then all records of him cease. But there is a votive picture which will long preserve his memory, and spread his fame far wider than he could ever have dreamed of. This is Holbein's most famous *Madonna*. To every true German heart, says Dr. Woltmann, the *Madonna* of the

Dresden Gallery appeals, as the fairest ideal of German womanhood. The face, all clearness and light, scarce perceptibly broken by the eyebrows; the tenderly drooping eyelids, the graceful build of the neck, and the dimple in the chin; all these are features to be gazed at and remembered with indescribable delight. Even Mrs. Jameson * admits that her half-deified Raphael has never surpassed this Virgin Mother. At her right hand kneel the Burgomaster and his youthful son, the latter holding up a beautiful naked boy; at her left is the Burgomaster's mother or mother-in-law, his wife, and their daughter, a girl just entering her teens. This is the old-fashioned monumental arrangement. It is not improbable that the elderly woman, though represented as living, was just dead when the picture was first designed, and that it was literally her epitaph,—intended, namely, to be placed above her tomb.

Every visitor to the Dresden Gallery is struck by two things,—the loveliness of the *Madonna* and the sickliness of the child. The gossip will tell him that the child is not Christ at all, but a sick infant of Meyer's; an idea which seems to have originated with Ludwig Tieck. To this some will add, that she has set down her own beautiful boy in front of her. Another suggests, and the notion is at least more agreeable with the character of the age, that the design was made in memory of the naked standing boy, and that the infant in arms represents his soul. But the conjectures are all thrown away, for the infant is extending his hand in the act of blessing. Moreover, this picture must be compared *with the original*; for, after all, the Dresden *Madonna*, though entirely designed, and partly executed by Holbein, is *not* a first original.

At Darmstadt is the great treasure, the property of the Princess Charles of Hesse. And yet, perhaps, both treasures are equal; for the enthralling beauty of which we have spoken is not to be found in the Darmstadt picture. She is here painted from an entirely different model, with more decided features, more marked and darker eyebrows, and an expression of more forcible grandeur. No one could talk here of a sickly child, for the child is smiling brightly. Dr. Woltmann proves, we think conclusively, that this is entirely Holbein's work, executed in his first period; and that the Dresden picture is later, and only Holbein's so far as the *Madonna* and child are concerned. *These* were new, and so was the plan of the architectural background: the family figures were copied by an assistant. The latter are very fine; still they are clumsy when compared with the originals. The Darmstadt picture was almost certainly placed in a church, and withdrawn by its owner when the tumults began. Its history is dark; probably because it followed the dark fortunes of the Meyers. The males of the family are supposed to have quitted Basle soon after 1529, like many of their co-religionists. The mother accompanied them, no doubt; but she left one member of the group behind her. The Dresden *Madonna* can be clearly traced back to the immediate descendants of her daughter Anna; and Dr. Woltmann has adorned its history with a pretty episode, partly conjectural, but partly founded upon documentary evidence. We must premise by stating that Anna's descendants possessed, besides the *Madonna*, two independent portraits of her parents; fine old copies after the Holbeins, which were lithographed for our Christmas number. And now for Dr. Woltmann's story. Anna, the demure little maiden of the picture, kneeling beside her mother, was just entering her teens when the Darmstadt original was painted: she was just leaving them, about the end of 1529, when she was married, and had a new household of her own at Basle. Her parents were on the point of migrating; and her most precious wedding-gifts were their portraits and the Dresden *Madonna*. Here she could still see the old household, including her former self, all lovingly united. But for the central figure Holbein had chosen a fresh model. The Virgin no longer appeared as the sublime patroness of the dead: she was a spiritual being, but of a softer splendour, better suited for the home of a young wife. Such is the story of the two *Madonnas*.

The second volume of Dr. Woltmann's work may be expected before long; and it may possibly tempt us to give a short abstract of his views (a couple of papers, perhaps), on Holbein in England. Of Holbein in Germany we have little more to say. At the close of 1522 the town-hall frescoes were suspended, and nearly all important works of art came to a stand-still. The Church and State authorities were hoarding their funds, with grim forebodings of civil war. Holbein could find few private patrons like Meyer or Amerbach; and he was not the sort of man to live quietly upon the mere alms of friendship. He could earn his own bread by designing for publishers and goldsmiths; but it was not enough to feed his family. His father died in 1524: his own home was unhappy, and he began to turn his thoughts towards foreign countries. It is probable that his uncle Sigmund at Berne, and his other German friends, could offer him very poor prospects of employment. Erasmus urged him to try England, and sent one of his own portraits to Sir Thomas More, with a letter commending the painter to his notice. The letter is lost; but More's reply, dated the 18th of December, 1525, runs thus:—"Thy painter is a wonderful artist, but I fear that England will not prove as fertile as he hopes. Yet I will take care that he shall not find it utterly barren." Holbein still hesitated. But matters did not mend at Basle. After 1522, there is no entry of payments made to him by the State, till March, 1526, and that is for painting two heraldic shields! At length the important moment arrived. A letter from Erasmus to a friend at Antwerp, dated 29th August, 1526, contains the following passage.

"The bearer of this is the man who has painted me. I will not burthen thee with his praises, though he is an

* "Legends of the Madonna." Second edition, p. 102. London, 1857.

excellent artist. If he desires to visit Quintin [Matsys, the painter], and thou canst not spare time to go with the man thyself, thou canst let thy servant show him the house. Here the arts are freezing: he is going to England to scrape together a few angels (*Hic frigent artes, petit Angliam, ut corradat aliquot Angelotos*)."

The poor pun, and even the frigid arrogance of Erasmus, may be excused; for he was evidently a good friend of the painter's. As for the English *angels*, we all know that Holbein gathered them in a golden harvest.

*** In consequence of the statements in the second part of the review of Dr. Alfred Woltmann's work, published in the December number of NATURE AND ART, relative to the supposed loss of *Holbein's original portrait of Johann Froben*, we received a letter from a gentleman claiming to be the happy possessor of it. We here give his own words, without hazarding an opinion on the subject, as we think it may be interesting to some of our readers to follow up the clue of the lost treasure thus afforded them.—ED.

Sheriff Hutton Park, York.

Dear Sir,—There is no doubt as to its originality, and if, as I understand by the review of Dr. Woltmann's work in NATURE AND ART of December, Holbein painted but *one* picture of Frobenius, then *our* picture is *that* picture.

This portrait came into our possession on the division of a large collection of pictures belonging to a gentleman connected by marriage with our family, and also a kinsman of the famous Lord Bacon. In this way, we became possessed of some very valuable pictures. I have the inventory of these pictures as made on Mr. Bacon's death; I do not recollect the date, but, I think, in the early part of last century. The picture is there described, "Frobenius, by Hans Holbein." There is not, and never has been, any doubt about the genuineness of the picture. Indeed, it is hardly necessary to tell you (even if the picture did not speak for itself, by its excellence, as indubitably by Holbein, and by his signature or monogram being painted, not, I may say, *on* the picture but *in* the picture), that the fact of what the picture was acknowledged to be at the time of Mr. Bacon's death, is strong evidence of its genuineness.

I am, faithfully yours,

LEONARD THOMPSON.

THE ATLANTIC YACHT RACE.

CHRISTMAS-DAY, 1866, will long be remembered by all who take an interest in the manly pastime of yachting, for on that anniversary of our great national festival there was brought to the shores of England by our transatlantic cousins as novel a "sensation," even in these prolific days of sensation novels, as the first arrival of Phœnician galleys must have been to the ancient Britons. We are indebted for this sensation, with all its characteristic originality and boldness of execution, to that remarkable "go-ahead" propensity which is so peculiar a feature of the idiosyncrasy of the American Anglo-Saxon. The abstract notion of a yacht race across the Atlantic in the best season of the year would, amongst an ordinary people, have sufficed to fill Ambition's measure to overflowing. But, desirous of even more than realizing the remark of Horace,—

"Horrida callidi vincunt æquora navitæ,"

the American yachtsmen evidently sought to *improve* the difficulty of their self-imposed task, and to add to the intensity of the "sensation" by courting all the perils attendant upon mid-winter navigation.

A brief description of the three yachts engaged in this remarkable contest is deemed worthy of record in the pages of NATURE AND ART, as much from the general interest which the event has excited throughout the length and breadth of the land, as from the advantages which may hereafter be derivable through having practical data at hand, with which to compare the conditions and results of any future ocean races.

Establishing the tonnage of the yachts according to American measurement (arrived at by taking length of keel, by which multiply extreme breadth, and the product by depth of hold, dividing total by 95), the *Fleetwing* is 206 tons; her length on deck being 106 feet; keel, 93 feet; beam, 23 feet 8 inches; depth of hold, 9 feet 3 inches; draught of water amidships, 11 feet 6 inches. She was commanded by Captain Thomas, of the packet ship *City of New York*, and carried a crew of twenty-two men. Her owner, Mr. George Osgood, was represented on board by Messrs. R. Centre and Staples, members of the N.Y.Y.C., and also judges on behalf of the *Henrietta* and *Vesta*. The *Vesta* differs from her opponents by carrying 18½ feet of "centre-board," or false keel (like that of the celebrated yacht *America*), which can be lowered and raised as desired. She is slightly inferior in size, being 201 tons; her length on deck is 105 feet; keel, 98 feet; beam, 25 feet; depth of hold, 8 feet 9 inches; draught of water, 7½ feet, in addition to her centre-board. The *Vesta* was commanded by Captain Dayton, her crew consisting of twenty-six men. Mr. Pierre Lorillard, her owner, was represented by his brother and Colonel Bayard Taylor, the celebrated author, who also acted as judges for the *Fleetwing* and *Henrietta*. The *Henrietta* measures 205 tons, and has more rake to her masts than either the *Vesta* or *Fleetwing*, which latter yacht she otherwise closely resembles in form, with the exception of having much more sheer. The *Henrietta* was commanded by Captain Samuels, of the well-known clipper ship *Dreadnought*, and carried a crew of twenty-four seamen. Mr. Bennett was the only owner who sailed in his yacht, and he was accompanied by Messrs. Jerome and Knapp, who were judges for the *Fleetwing* and *Vesta*, and by Mr. Fisk, of the *New York Herald* newspaper.

New York was naturally alive with the excitement arising out of this unprecedented contest for a week or two preceding the day fixed for the race. The intense interest thus manifested throughout the "Empire City" was in some degree attributable to the very even chances of the three competing yachts, although the *Fleetwing* was slightly the favourite. When the day appointed for the start—Tuesday, December 11th—arrived, the excitement had reached its culminating point. At every available position vast crowds had assembled, who vociferously cheered the occasion and each preparatory movement made in connexion with it. The vessels in harbour and the craft plying on the East and Hudson rivers, and the villas upon Staten Island, off which the yachts lay, were gaily decked with flags. Steamers had been hired to convey the members of the New York Yacht Club, and the numerous friends of the competitors, to Sandy Hook, the scene of departure for the hazardous enterprise. The day was bright and the wind westerly and favourable. The air alternately vibrated with the enlivening music of many bands, and the thundering salvoes of many salutes fired in honour of the adventurous yachtsmen.

At eleven o'clock the *Henrietta's* racing signal was run up, and then the three yachts were taken in tow by their respective tugs to the starting-point. The *Fleetwing* took up her position about a mile to the eastward of Sandy Hook; the *Henrietta* was nearest the shore; and the *Vesta* was stationed midway between her two antagonists. They waited thus until one o'clock p.m., when Mr. Fearing, the starter, gave the signal; and then, at the sight of a little puff of smoke and the booming sound of a gun, up went foresails and topsails on all three. Scarcely had the wind filled these sails when the second gun was fired, and the yachts' whole spread of canvas was shaken out. Before the first burst of cheering from the excited spectators had

died away, the yachtsmen heard the still more congenial sound of the sea, hissing, rushing, and caressing their vessels as they gathered way and cut through the foam-crested waves of the Atlantic. Lying inshore, the *Henrietta* was the last to catch the breeze, but quickly recovered this slight delay as she veered off from the land. For some time the steamers and tugs escorted the yachts in procession, the bands on board the former playing "Auld Lang Syne." The wind gradually rose and the yachts increased their speed, the farewell cheering became fainter and fainter, and the last of the tugs, with a parting hurrah, turned homewards; while, in responsive cheers, the crews of the yachts bade a temporary adieu to the United States. Daylight rapidly declined, the sun sinking beneath the western horizon in a departing halo of crimson and gold; and at nightfall the friends lost sight of each other until they again met in the harbour of Cowes.

The *Henrietta*, showing a blue flag by day and a blue light at night, sailed along over the Atlantic course; making the Scilly Isles on December 24th, at 7.45 p.m., passing Hurst Castle the next (Christmas) day, at 4 p.m., and arriving off Cowes at 5.40 p.m.; the winner of this Ocean Derby, having accomplished the voyage in the brief space of thirteen days, twenty-two hours, and forty-six minutes.

Notwithstanding her remarkably swift passage, the *Henrietta* experienced the reverse of fair weather. She once lay to for ten hours in a gale, and in a subsequent calm of ten hours' duration she made but little progress. Afterwards the weather proved tolerably fine, until the *Henrietta* reached the Scilly Isles, and then she encountered, in the British Channel, the fogs, mists, and gloomy weather so characteristic of our climate in the winter season. It was under this cheerless aspect that she reached the goal of victory (without the loss of a strand of rope or a shred of canvas), to be greeted with such hearty, enthusiastic welcome as must have quickly dispelled from the minds of all on board any prejudicial notion that Englishmen's feelings are influenced by the gloomy nature of their climate.

The *Fleetwing* showing a red flag by day and a red light at night, commenced her voyage under most unfavourable auspices, which eventually culminated in the appalling catastrophe so ably depicted by Mr. Dutton. On the evening of December 11th, the *Fleetwing* lost her weather square-sail boom; the day following her jib-boom was carried away, and she again lost it on the 16th. At 9 p.m. on the 19th, while she was running dead before the wind, she broached slightly to, when a huge wave broke on board amidships. As her stern sunk in the trough of the sea, the immense volume of water rushed aft; washing overboard six of the eight men forming the watch in the cockpit. The remaining two (the mate and the helmsman), as also the two look-out men, stationed forward, escaped the awfully sudden doom to which their ill-fated comrades were hurried. During four hours the *Fleetwing* lay to, while those remaining on board fruitlessly endeavoured to discover the victims among the waves which had engulfed them. Continuing her voyage with a diminished and naturally depressed crew, the *Fleetwing* eventually reached Cowes at 2 a.m. on December 26th; thus arriving some eight hours after the winner.

The *Vesta*, which showed a white flag and white light, had remarkably favourable weather throughout her passage, and neither shipped a sea nor lost a rope. Taking a more northerly course than her opponents, she escaped the gale which caused the *Henrietta's* long detention and the *Fleetwing's* lamentable accident. Owing, however, to the deviation of her compasses, she went considerably out of her true course, and had to bear up off the Scilly Isles, which she sighted one hour earlier than the *Henrietta*, and to make good her lost ground. In addition to this, the pilot, whom she picked up about ten miles off the Needles passage, mistook his course, and almost ran her ashore and wrecked her on the rocks off St. Catherine's; by which error she was again unnecessarily delayed. She reached Cowes the last of the three yachts, arriving at 3.30 a.m. on December 26th, one hour and a half after the *Fleetwing*.

The distances respectively sailed in the race are stated to be as follows:—*Henrietta*, 3,040 miles; *Vesta*, 3,069 miles; and *Fleetwing*, 3,200. The respective maximum and minimum daily distances sailed are, *Henrietta*, 280 and 113 miles; *Vesta*, 277 and 165 miles; *Fleetwing*, 270 and 136 miles.

VIZ.

MUSIC AT HOME.

WHEN Christmas is fairly over, and the old gentleman with the scythe and hour-glass is deposed in favour of that infant Hercules, the New Year, Britannia forthwith inclines to festivity, and devotes herself to party-giving. Pantomimes and burlesques are very well in their way, but the young people must be made jubilant at home. Those who live in Rome necessarily follow in the wake of the genteel Romans; and all who take delight in that institution known as "Society," are called upon to do their best towards promoting what vulgar little boys, partial to sliding, term "keeping the game alive." Matrons who, with their daughters, sail into two or three *salons* per evening, or even one per week, are required to occasionally throw open their own apartments; and persons who partake of hospitality as represented by quadrille bands, bon-bons, ices, and champagne, must offer similar delights in return. Festivity may not be hydra-headed, but it takes varied forms, and a few remarks upon the comparatively mild delights of a "musical evening" may not, perhaps, be considered out of place. Materfamilias having no Harlequin's wand at command, cannot "turn the house upside down" for the delectation of her dancing friends without considerable inconvenience; she therefore chooses a quieter form of entertainment, and perching Euterpe upon the grand pianoforte, invites gentle and simple to worship the second Muse after their own fashion, that is to say, after the fashion of the day; for to be unfashionable in music is to meet with looks of pitying wonder from some of the brightest eyes in the world. Could society be furnished with statistics relating to musical parties, it would probably transpire that during the last quarter of a century these entertainments have increased a hundred-fold. There are *soirées musicales*, where court beauties all a-blaze with diamonds, find themselves face to face with operatic stars in the evening dress of private life; for the loving and confiding Margherita does not always wear her hair in long plaits, neither does Mephistopheles appear in scarlet hose when he sings his (strictly speaking) fiendish serenade. There are also the musical parties of middle-class life, where volunteers take the place of hired mercenaries; and where Mendelssohn's *First Violet* pales before a jewel of such exceeding brightness as the fashionable

Floribel's last ballad. The strong-lunged and vulgar drones in the London beehive have likewise their vocal and instrumental festivals, though invitations thereto are given verbally, and the descriptive term "sing-song" is substituted for "soirée." The consumptive nightingale Violetta's *Ah fors è lui*, floating from the marble halls of Belgravian squares into the midnight air, helps to prove music a resource with the "wealthy and curled darlings of the land;" the echoes of the latest specimen of Ethiopian serenader pathos (or bathos) behind the drawing-room blinds of Harley, Gower, or staid Queen Anne Street, suggest that the divine art is held in equal esteem by the comfortably situated middle classes; and is it not recorded by a thousand wandering minstrels that even the dwellers in the most sordid slums, have, in common with their betters an ear for music and a mind to cultivate it?

Poor Euterpe has sometimes little reason to admire the taste of either patrician or plebeian, and certainly deserves better treatment than she frequently experiences at the hands of that section of the community which may be designated the happy medium between high and low. We are all at liberty to accept the dogma, "a little knowledge is a dangerous thing," with a certain degree of reserve. When, however, that "little knowledge" is misapplied, in music especially, it conducts natural taste on the downward road with alarming rapidity, and promotes something more than a toleration of things known to be meretricious in every sense of the word.

The ladies, "heaven bless 'em!" as a jocose contemporary ecstatically observes, cannot, perhaps, be expected to dive deeply into the art of music; but even skimming over the surface after the most approved custom, they might surely gather up more precious waifs and strays than they do. A little counsel is needed, but is, unfortunately, seldom forthcoming. Of what artists themselves might do for the advancement of music we shall hereafter speak; but at present the maids of merry England are by no means indebted to the great body of concert vocalists for information as to where the best songs, native and foreign, are to be found. Assuming a young lady with a *soirée musicale* in view, and in search of a song; how is she guided in her choice when face to face with a thousand sheets of spoiled paper in a music-shop? She, very probably, could count all the song-writers she ever heard of on the fingers of one white hand; and as for estimating the worth of a ballad by looking at it, that is impossible. She could not, to save her life, purse her rosy lips and softly whistle the melody, supposing propriety sanctioned such a proceeding; and as for the accompaniment, that is very often a sealed book at first sight. Aurora is far more likely to require of Brown, Jones, or Robinson behind the counter, "a pretty song with an easy accompaniment," than simply a "good one," without any such stipulation. Obliging attendant Brown understands the dainty maiden at once, and has quires of something worse than mediocrity conveniently at hand. It is not assistant Brown's place to tell his charming *vis-à-vis* that Mr. Henry Smart wrote an exquisite song called "Hateful Spring," with a difficult accompaniment; that Mr. J. L. Hatton's "Rainy Day" admits of no compromise in the latter particular; or that Schubert and Mendelssohn composed songs which more than repay any one for the trouble of really studying them. He imparts no such information, but produces "Mopings at Daybreak," and "Midnight Maunderings," by some feebly twinkling, though fashionable star of the musical firmament, and they are forthwith ordered of him. "Counter Songs," that is to say, compositions calculated to meet the views of those who have no deep feeling whatever for music, and who are anxious to discharge their individual obligation with the least possible trouble to themselves, must be in what are called, singularly enough, "easy keys." Five flats, or the same number of sharps, by way of signature, are abominations in the eyes of young ladies; and an accompaniment made up of anything but the simplest chords is almost inadmissible. The supply of any kind of trash is generally equal to the demand; and mediocrity, at the best, flourishes exceedingly at *soirées musicales*.

We hear much in the present day of "missions," and it cannot surely be questioned that to the daughters in a family circle is chiefly confided the honour of music as an art. The responsibility is unconsciously accepted, and its importance decidedly undervalued. Young ladies possess, unknowingly, an immense power either to advance or retard the progress of true taste, and it is in home circles that everything noble and beautiful in the world of sweet sounds should be most eagerly sought after. Fathers and brothers, as a rule, neither sing nor play the pianoforte, but they frequently listen, and their taste must be influenced by what they constantly hear. There are cheering exceptions to every rule, and the newest valse, vocal or instrumental, is not the summit of every maiden's ambition. While all tacitly admit singing and pianoforte-playing as duties owed to society; and while, as we have already said, the vast majority take the least possible trouble in rendering this suit and service, there are some who set about the work in an earnest and conscientious manner. Why should a composer submit to the indignities heaped upon him by his delightful young tyrants? Why should his accompaniments be mercilessly "vamped," as they oftentimes are, and why should not his unfortunate unities be properly respected? Why, on the other hand, should his lilies be repainted, and his fine gold—the pride of his fancy—be re-gilded, either by professionals or amateurs partial to ornamentation; and why in any case should not his intentions be always religiously respected? Admirers of music are plentiful as blackberries in October, but devotees in private life do not abound. Those who take up music as a matter of course will condescend to everything indicated above; but true lovers of the art will do nothing of the kind. They give the composer credit for some kind of thought and mental power; and first endeavouring to dis-

cover his meaning, next set about translating it in a fair, candid, and painstaking spirit. The minority who decline any vocal commonplace that happens to be fashionable, and turn their attention to better compositions, have their reward. Music is, to them, a repose and a consolation, which time cannot weaken, and they have the satisfaction of knowing that many of their friends rely upon their judgment, and respect them for their integrity.

At the generality of musical parties, vocal attractions are far more potent than instrumental; and in common justice a protest may be made against the very undignified position which that friend of man and woman, the pianoforte, is made to accept. Pianoforte solos form part of the soirée scheme, but society is sometimes very unmannerly in reference to the unfortunate pianist. Conversation in the private boxes of theatres is not the only sign by which the *élite* proclaim their contempt for the usages of common politeness; for in ordinary way, the commencement of a crack-brained fantasia or a dreamy nocturne seems to quicken the loquacious powers of every one in the room. One of the Abbé Liszt's acrobatic transcriptions is allowed no better chance of making its mark than a delicate, fanciful, and tender Impromptu of Chopin—"that angel of melancholy." It is useless for the presiding genius at the instrument to pound away at octaves and arpeggios, for the odds are too great, and resignation becomes a virtue. The lady or gentleman friend of the family may adopt the word *forte* for his or her motto, but the remaining guests will not be outdone, and take "fortissimo" for their watchword. "Thanks," and "charming," are the terms of acknowledgment and admiration indulged in by those who have not heard a note of the solo; and the discomfited pianist emerges from this kind of social purgatory with, possibly, a settled resolve to "assist" at musical parties no more. Forbearance comes too late, and common consideration is entirely at fault when active tongues stop at the last instead of at the first chord of a pianoforte piece. The vocalists have things their own way at musical evenings, and those who undertake to do their best for Mendelssohn, Stephen Heller, or even Mr. Brinley Richards, may consider themselves fortunate if one or two in the assembly pay the slightest attention to them. The intelligent "wallflower" nearest the instrument is occasionally a consolation to the pianist in these seasons of affliction, for it may happen that the masters and mistresses of houses devoted to soirées prefer to indulge in "big talk" about big people, while a little lady or gentleman with a great soul is being sorely troubled by garrulous dowagers, coquettish maidens, and plethoric old gentlemen, with no more love for music than for butterfly-catching. Good example does not always proceed from the quarter expected, and the habits of those who attend musical parties must greatly change before the common justice above referred to, is rendered to the piano soloist.

Those who in the course of a season make the somewhat wearying round of concerts and matinées, cannot fail to perceive how greatly the dignity of music is confided to public singers. What vocalists might do in the cause of the art they profess, and what they do, are two very different things. They might, and should, lead popular taste into the proper channels, and by their choice of songs inculcate a love for compositions in which something like mind and thought exist. They might also creditably employ themselves in fanning that divine spark, of which we see so little, but which, nevertheless, flickers through every page of good music; and set examples worthy of themselves, as well as of incalculable service to their fellows. The concert-room gives the law to the drawing-room, and it is the fault of the professional singers themselves, if persons really interested in music are forced to deplore this fact, in place of congratulating themselves upon it. Artists are not ethereal beings, neither can they afford to postpone the making of hay till the sun ceases to shine; but it is certainly possible for them to do more for the art, and as much for themselves, by following other rules than those at present in force. We, as a great little Corporal was pleased to observe, are "a nation of shopkeepers," and not averse to the turning of honest pence. This is an indisputable fact; and as some lords of broad acres may be prevailed upon to sell their game to a shopkeeper, so it is just possible a vocalist of the highest reputation may, for a consideration, be induced to affix his or her sign manual to a song or ballad decidedly not of the highest school of art. It might, perhaps, be too bold to assert that any form of "refresher" is ever offered by a publisher to a vocalist, and still bolder to affirm that pecuniary compliments are paid by music-shopkeepers, and accepted by the stars of the musical hemisphere. The outer world may not say point-blank that professional singers are paid by publishers to force unmitigated trash down the public throat, but the outer world aforesaid is at perfect liberty to put its own interpretation upon certain practices now too much in vogue.

A sentimental ballad by the fair Gabrielle Virginie, or by Floribel, makes a very palpable hit, and forthwith commercial enterprise pricks up its ears. More sentimental ballads from the same "eagle plumes" follow in quick succession. They are put prominently forward in the music-shops, and pertinaciously introduced, to the exclusion of better compositions, in the concert-room. That the singer with whom they are identified may have lost his or her voice is a matter of no moment, so that he or she be still sufficiently popular to take these things from platform to platform in London and the provinces, and "make them go" at all hazards. Presently initials (not printed) appear upon the title-pages, and what do the letters L. S. D. in loving companionship mean? Why should the singer's name be written and the composer's printed? If merely a graceful recognition of the musician's genius be intended, there are others equally deserving of the honour.

Another unfortunate dispensation is that which makes some persons composers as well as vocalists, and gives them the opportunity of trying to

popularize their own inventions. Instances both native and foreign might be quoted of this double gift vested in one person, though, unhappily, in very unequal degrees. Herr Streichart is all very well when engaged in the cause of Mozart or Beethoven, but when, on every possible occasion, he bursts into songs of his own composing, Herr Streichart does not advance civilization to the best of his ability. So, from one of the most popular English tenors, his countrymen have a right to expect greater consolation than that to be derived from his personal efforts in ballad-writing. Singers who are also composers will naturally give their own songs whenever and wherever they possibly can; and this must be accepted as one influence at work against the more frequent introduction of good music into the concert-rooms.

It will surely be admitted that the native school boasts of many young sopranos, whose names are constantly seen in matinée programmes, but almost invariably in connection with one or two songs, which are made to last for a season, and which are repeated everywhere without the least apparent compunction. A fair-haired English Miss (all honour to her for despising the Mdlle. apostasy), begins the season with vocal reflections on the blessings which follow a "Genial vernal shower;" continues in precisely the same strain, and carols on to the end of the fashionable months, without advancing any new theory whatever. All this is infinitely monotonous, infinitely inartistic, and infinitely damaging to the interests of music. From the German sopranos we cannot get the lovely songs of Schubert and Mendelssohn, but are obliged to put up with vocal valses, none of them comparable with Venzano's, which poor Madame Gassier sang so well. The best songs, either English or foreign, are unfortunately not those ordinarily met with at concerts, and the complacency with which artists pass over, neglect, and contemptuously ignore the thousand good compositions within reach, and waste their talents on inferior songs, is to be sincerely deplored.

A *résumé* of recent musical events will, of necessity, be brief. Mr. Alfred Mellon at Covent Garden (for during the reign of Harlequin the old name of the theatre may be spoken), has clearly proved that anything will do as a prelude to a gorgeous pantomime. M. Emile Jonas's *Avant les Noces*, called by Mr. Gilbert à Beckett, the English librettist, *Terrible Hymen*, is about as vapid and meaningless a trifle as the English public were ever called upon to tolerate. But two persons are concerned in rendering M. Jonas's inspirations: Mdlle. Linas Martorelli plays Marie, a bride elect, and Signor Gustave Garcia, Pierre, the stronger vessel, on the road to matrimony. Pierre is decidedly weak-minded, and Marie the reverse. The fun (save the mark!) consists in a change of costume, and poor Signor Garcia is in vain called upon to be comical in his handsome companion's drapery. Pierre speaks broken English, and this does not improve the situation. Signor Garcia sings well, and so does Mdlle. Martorelli; but both are out of place in *Terrible Hymen*, which, fortunately, takes little more than half an hour in representation. Of the *Forty* charming *Thieves* we have nothing to remark except to be taken prisoner would inevitably be to renounce the respectable world, and join their band. Mr. Tom Hohler made his *début* as an oratorio singer in *Elijah*, at the Sacred Harmonic Society's concert in the last month of the last year. Mr. Hohler had a cold, and undertook the tenor part at a short notice; but Mr. Hohler made a dire mistake in undertaking the music at all. He will have another opportunity of asserting his claims to be regarded as something more than a respectable tenor when Mr. Mapleson re-opens his magnificent theatre; but Mr. Hohler has so much to learn that his chances of distinction are very doubtful. That he has disappointed expectations, is beyond doubt, and that those expectations were raised upon totally false grounds is tolerably evident. The public tire of hearing a singer practise. The best thing for any one in need of such training is to go through it in private, and avoid theatres or concert-rooms during the course.

At a concert given by Mr. Henry Leslie at St. James's Hall, on January 5th, Mr. Santley sang, for the first time, a sequel to the "Stirrup Cup," by Signor Arditi. Sequels are seldom impressive, or at all equal to the original songs, and "The Gift and the Giver" is no exception whatever to the rule. On Saturday the 12th, a series of Promenade Concerts was commenced at Her Majesty's Theatre —of which more anon.

CAMOËNSIA MAXIMA (WELWITSCH).*

THE African continent, perhaps, of all the large continents, is, although unlike South America and many parts of tropical Asia, covered with dense forests of almost innumerable species, forming impenetrable masses of luxurious vegetation, the richest in vegetable wonders and curiosities; and the well-known adage, "ex Africâ semper aliquid novum," is, with the progress of exploration, continually being realized. Two very singular and interesting plants have already been illustrated in this work, viz., the *Welwitschia mirabilis* and the *Tree-Aloe;* and, to recall some other remarkable forms, the branched Palm (*Hyphæne Thebaica*), the *Baobab* (*Adansonia digitata*), and the thick-fleshy-stemmed vines (*Vitis Bainesii* and *V. macropus*)

* Dr. Welwitsch, the celebrated African traveller, who collected this plant and from whose specimens our plate was taken, had promised to furnish us with an article upon it; but, unfortunately, he has been by indisposition prevented from so doing.

might be mentioned. Our plant, however, is not from the arid region characterized by the above-mentioned varieties of the vegetable kingdom, but from the high elevated forests of the Golungo Alto, in Angola, where, according to Dr. Welwitsch, it adorns the loftiest trees on the margins of the forests, causing the traveller to pause in amazement before its grandeur. It may truly be called the queen of the Leguminosæ or pea-flower family, of which it is a member, outrivalling as it does in the size and magnificence of its flowers all its relations from all parts of the world. Even in Australia, where, in some districts, this family is the prevailing feature, and is, in proportion to the other families, more largely represented than in any other region of the globe, only one, *Clianthus Dampierii* (now frequently seen in our green-houses), whose flowers are infinitely smaller, though more brilliantly coloured, can vie with this noble plant. It is to be sincerely hoped that an opportunity may soon occur of introducing it; and this difficulty once overcome, it would spread rapidly throughout the country, for members of this family are, as a rule, easy of cultivation and propagation.

The position assigned to this genus in the family by Bentham, and Hooker is in the Sophoreæ, distinguished from the neighbouring tribes by having not more than ten uncombined stamens. The well-known *Sophora Japonica* of our gardens, a large ornamental tree with fern-like leaves, is the typical genus of the tribe. Camoënsia of itself forms a subtribe with three leaflets on each stalk, a broad upper petal, narrow distinct lower petals, and numerous ovules. The following is a popular description of the species represented on the plate. A tall, smooth, climbing shrub, with drooping branches; leaves on stalks about two inches and a half long; leaflets of the leaf almost destitute of stalks, about four inches long and one inch and a half broad, margin uncut; flowers in pendulous 6-12 flowered racemes, ten inches to a foot in length; calyx, or outer covering of the flower, six inches long, with its segments turned backwards; petals white, bordered with gold, the upper one much larger than the others. The ripe pod is about the size of that of a broad bean, but with a thicker and harder shell. The plant is reduced one half in the plate.

One other species only of the genus is known also from tropical Africa, but nearer the equator, and a very handsome plant, but falls into comparative insignificance by the side of its more showy congener.

Not long ago a coloured drawing of Camoënsia was shown at one of the South Kensington Horticultural Society meetings, and a hope expressed that ere long it might be introduced to our conservatories: it is to be desired that it may.

W. H. F.

MUSIC ABROAD.

As the old gentleman, according to the fable, discovered very, very long ago, thanks to the donkey which he could neither ride, drive, nor lead without exposing himself to the reproaches or incurring the raillery of the persons he met upon the road, there is certainly no pleasing everybody, or, to put it in a forcible, though somewhat familiar form: "what is one man's meat is another man's poison." As a rule, when the Viennese have nothing else to do, they abuse the management of the Imperial Opera-house for not providing sufficient novelty. Now they are absolutely finding fault with it for supplying them with that commodity. Sig. Verdi's *Ballo in Maschera*, or *Maskenball*, as it is entitled in the Viennese playbills, has been produced at the Kärnthnerthor Theater of Vienna, and a number of foolish individuals immediately raise a cry that an act of leze-majesty has been committed against German art; that a wrong has been inflicted on the "national" opera. For our own part, we certainly consider the management acted very wisely in enriching its German operatic repertory with a work which has everywhere proved so successful as *Der Maskenball*. Whether that work satisfies all that critics are justified in requiring, is a question that must, probably, be answered in the negative. But in the domain of music, more, perhaps, than anywhere else, novelty is indispensable. The number of really classical operas, and of operas traditionally so called, is very far from being large enough to constitute an entire repertory; the consequence is, that new works must be added to the best among the old ones. When any particular period, like the present period in Germany, proves unproductive in the way of operatic *chefs-d'œuvre*, that which is relatively best must be picked out, and the public content themselves with it. This standard of merely relative excellence is the only standard applicable to the German lyric stage at the present moment, and critics will have to adopt it, even against their inclination, if they would exercise their functions fairly and with advantage to the cause of art. So much in answer to the assertion that *Der Maskenball* is not a first-class production. With regard to its being composed by an Italian, those musical patriots, who, on that account, object to its figuring in the German list of the Imperial Opera-house, forget, probably, that, for the moment, Germany cannot point to any living operatic composer of any note. Granting, for the sake of argument, that Herr Richard Wagner ever composed an opera worth hearing, even that gentleman's warmest admirers will hardly deny that the last specimen of the kind from his pen was his *Lohengrin*. All that has followed it has been a series of abstruse experiments, without any vitality upon the stage. Yet, at the present date, Herr Richard Wagner is the sole representative of German composers with a reputation abroad. Whatever may be the failings and shortcomings in the more recent operas by Verdi and Gounod, these gentlemen are undoubtedly the most talented among existing operatic composers. It is not simply to a love of what is foreign, to a mere caprice of fashion, that they owe the position they have achieved in Germany. Of all the German operas produced during the last twenty years, the most bigoted admirer of the country that gave birth to Mozart and to Beethoven, to Meyerbeer and to Mendelssohn, would be sorely puzzled to adduce a single act equal, in melodic invention and dramatic effect, to the second or third act of *Faust*; the fourth of *Il Trovatore*; the third of *La Traviata*; or the second of *Un Ballo in Maschera*. This may be mortifying to German pride, but it is the truth. The reader must not, however, conclude, from such a state of things, that German composers have been, or are idle. On the contrary, they all burn with eagerness to achieve theatrical triumphs, and their zeal in composing operas might be taken as an example

of industry even in an ant-hill. At its numerous "Court" and "Municipal" theatres, or theatres supported by the reigning sovereigns or the Corporation, respectively, Germany has, perhaps, produced, during the last twenty years, five times as many new operas as France, and at least as many as Italy in the same period. These said German operas, on their first representation at Munich, or Leipsic, or Darmstadt, or wherever they first beheld the light of the lamps, are greeted, as a matter of course, with shouts of applause by local musical patriots, and recommended by the local critics to the world at large as great and effective novelties, which cannot fail to become exceedingly and universally popular. Nearly all, however, meet with a decidedly cold reception in the very first town where the manager is bold enough to try them. Even in the fortunate locality where they were produced, they survive their first triumph for but a strangely short time. Despite the acquirements and skill, despite the labour and enthusiasm that characterize these scores, the utmost they achieve is a *succès d'estime*. The reason of this is, almost invariably, to be found in the want of talent—either creative musical power generally, or dramatic power more especially—on the part of their composers. It is undoubtedly Verdi's talent, his energetic and well-defined talent, which gives him the superiority over so many more highly accomplished German composers, who, as mere musicians, must certainly be ranked above him. Let Verdi's operas be for ever banished from the German stage, provided modern Germany can fill up with something as good, the void which would be thus created. Until it can do so, however, German art-bigots should cease reviling those persons who take a pleasure in the Italian *maestro's* productions, in default of anything better. Even in his most careless works, Verdi always has some happy thoughts peculiar to himself; and his broad, but sure touches, frequently invest the dramatic situation with a degree of warmth and power, to which the most learned and most deeply calculated turns of modern German composers never attain.

With regard to Verdi's *Maskenball*, it may not be generally known that Scribe's libretto, *Gustave, ou le Bal masqué* (on which Sig. Verdi's book is founded), was originally intended for Rossini, who was charmed with it. Eventually, however, satiated with fame and tired of work, he left Paris without having written a note of the music. Scribe then offered the book to Auber, who at first thought the plot "almost too dramatic." As we all know, he afterwards composed on it one of his most graceful and popular scores. M. Véron, under whose management *Gustave* was produced, says that it was nearly a failure on the first night, owing to one trifling fact, on which no one had bestowed a thought. The characters, it appears, were properly dressed in the *Roccoco* costume of the time of Louis XV., a costume better adapted for light pieces than for serious ones. The celebrated Mdlle. Mars had long before refused to play tragic parts in this dress, because she knew, by sad experience, that any exhibition of emotion was followed by an avalanche of hair-powder, which infallibly provoked the mirth of the audience. The singers in *Gustave* soon perceived that they dared not allow their feelings full scope. They were stiff and formal, instead of being warm and impassioned, and moved about under the constant dread of being interrupted precisely in their best scenes by peals of laughter. This naturally lent an icy coldness to the performance, and nearly ruined the opera. On the next night, hair-powder was banished from the Swedish court—at least on the French stage.

Many persons have expressed surprise that Verdi should have chosen a subject already used as an operatic *libretto*. He has only followed a plan at one time exceedingly common in Italy. Indeed, less than a century ago, it was a regular thing for several composers to set the same book. There is not, for instance, a single book written by Metastasio which has not inspired half a dozen musicians. Many composers, like Hesse, for example, even set the same *libretto* over and over again. The practice in question, which, however, has become less common in Italy for a long period, though it has never been entirely discontinued, sprang from the little importance attached to the words, and the absolute superiority attributed to the music. What a different view is taken of the matter by the French. While in Italy, a *libretto*, after being once set to music, becomes common property, it belongs, in France, to one composer and one theatre. Germany follows in the footsteps of France. The system of recomposing a *libretto* which has already inspired a musician of any note, possesses, perhaps, as a set-off against great disadvantages, only one advantage: it urges each new composer to extraordinary exertions. If he would achieve any success with his second-hand subject, he must not simply equal, he must surpass, the first composer, and drive him entirely from the stage. Voltaire's celebrated maxim, "Il faut tuer quand on vole," is particularly applicable in this case. Two settings of the same text cannot well subsist side by side upon the lyric stage. Rossini's *Barbiere di Seviglia* drove away Paisiello's once popular work; Donizetti's *Elisir* threw Auber's *Philtre* in the shade; while Donizetti's *Burgomaster of Saardam* had to yield to Lortzing's *Czaar und Zimmermann*. In the above cases there is nothing to be said; the victors have so completely excelled their predecessors, that no one, probably, would desire to restore the latter to their original supremacy. But this is not always the case; it sometimes happens that, because more modern, or stronger in certain effects, one opera has crushed an older one, the loss of which cannot be contemplated without regret. There have been two such instances lately; Gounod's *Faust* has shelved that by Spohr, and Verdi's *Ballo in Maschera* eclipsed Auber's *Gustave*. At the Kärnthnerthor Theater, the former work was exceedingly well played and sung by every one concerned. Mdme. Dustmann was exceedingly good in the part of Amalia; Fräulein von Murska made a decided hit as the Page Oscar, especially in the third act; Herr Walter, as Count Richard, was no bad substitute for Graziani, who played the part during the Italian season; and Herr Beck gave more than usual importance to the prominent part of René. An interesting revival at the same theatre has been that of Boiëldieu's famous opera *Le Petit Chaperon rouge*, or, in German, *Rothkäppchen*. This opera is already half a century old. Very few modern opera-goers know much concerning it, and therefore a word or two about it may not be unacceptable. Despite the title, the equivalent of our own *Little Red Riding-hood*, the plot has nothing in common with the old fairy tale, save a distantly figurative relationship. Rothkäppchen is in the opera an innocent peasant-girl, possessing in her red hood a sure talisman against any attacks that unprincipled men may make against her. There is no actual wolf lying in wait for her, but a bright specimen of the allegorical species, in the shape of a certain Baron Rudolph, a practised and consistent *roué*. For him it is as easy a thing to conquer girls' hearts as it is for Red Riding-hood to be virtuous, seeing that he also possesses a talisman, a ring so brilliant that it completely dazzles, bewilders, and overpowers every girl who beholds it. The Baron waits for Red Riding-hood in the forest, as she is going to visit an old hermit. But the power of the ring is utterly annihilated by the red hood. Wild with fury, the Baron hastens to reach the hermitage, where, disguised as the Hermit, he again awaits the maiden. Her position is now growing rather perilous, when the real Hermit enters; recognizes in Red Riding-hood a long-lost niece of the Baron's, and unites her to Count Roger, who, clad as a shepherd, has already won her heart. The great simplicity of the plot, and the utterly needless infusion into it of the superhuman element, are rather at variance with modern taste; that mongrel being the Hermit is an especial nuisance; the audience tolerate him, nay, perhaps, they rather admire him, when he passes at the back of the stage—like Zamiel from *Der Freischütz* turned virtuous—on every occasion that vice threatens virtue; but when, in the last act, he becomes personal and sentimental; when he bewails his lot and expresses a fervent wish that he may speedily die, there is not, probably, a single person present who, if he could, would not see the worthy and venerable bore's desire instantly gratified. Boiëldieu expended several years of ceaseless labour upon *Rothkäppchen*. But he cannot have regretted it, for the success of his work was as lasting as it was

triumphant. Still, everything here below has an end, and at last the magic hood began to be somewhat threadbare. At the present day, the music has lost the magical power it once exercised; for the Europe of 1867 it is, with the exception of a few pieces, tame and a trifle wearying. It is a strange fact, however, that the first person to degrade *Le petit Chaperon rouge* from the proud position it occupied on the French stage was no other than Boïeldieu himself, who, with *La Dame blanche*, brought out seven years after *Le petit Chaperon*, surpassed all that he had ever done before. That a composer should, in his fiftieth year, produce a work superior to any he has previously given to the world, is certainly a noticeable phenomenon. Rossini's last opera, *Guillaume Tell*, is a most striking instance of this; but then in *Guillaume Tell* Rossini's style underwent a complete transformation. In *La Dame blanche*, on the contrary, Boïeldieu remained perfectly true to himself and to his style, only his fancy was richer, warmer, and more active than it had been at any other epoch. His music, too, was, for the first time, characterized by its geniality, whereas it had previously been distinguished simply for its good taste and gracefulness. And to what was this remarkable change due? To the influence of Rossini, whatever French critics may say to the contrary notwithstanding. It was precisely between 1818 and 1825 that France, after so long opposing and decrying Rossini, began to acknowledge his genius, which gradually but surely subjected France to its power; and there is not the slightest doubt that Boïeldieu, like less-gifted men, was unable to withstand the charm exercised by the great Italian master. At the Kärnthnerthor Theater, *Rothkäppchen* has not been a brilliant triumph. But then it requires not only to be well sung; it must be well acted also; and, unfortunately, good acting is something of which, as a rule, German operatic singers are supremely ignorant. ——M. Hector Berlioz has been to Vienna to superintend the production of his *Damnation de Faust*, which went off with great *éclat*. The chorus and orchestra, conducted by Herr Herbeck, consisted of four hundred performers. Mdlle. Bettelheim was Margaret; Herr Walter, Faust; and Herr Meyerhofer, Mephistopheles. For the words in the Chorus of Demons, who employ in the original version a language known only to themselves and Beelzebub, others were substituted belonging to an earthly, and, therefore, more prosaic idiom, as some apprehension was felt lest, if this were not done, the risible faculties of the Viennese would be exposed to an ordeal which they would have some difficulty in undergoing. A grand banquet was given by M. Berlioz previous to his departure. Another artistic celebrity, also, has lately visited the Austrian capital. We allude to Fräulein Mary Krebs, whose playing has fairly taken the Viennese by storm.

Perhaps there is, at the present day, no art institution in Europe, that is, in the whole world, where so much laudable activity is to be found as at the Royal Opera-house, Berlin. The company is so strong, that not only is the management enabled to give performances every evening, but we may with truth affirm that every performance is at least worth hearing. As a specimen, let us take a week at hazard, and we find that on the Monday there was *Der Freischütz*; on Tuesday and Sunday, *L'Africaine*; on Wednesday, *Rienzi*; on Thursday, *Stradella*; on Friday, *Le Nozze di Figaro*; and on Saturday, *A Midsummer Night's Dream*, with Mendelsshon's music. Among the artists engaged in these *chefs-d'œuvre* were Mesdames Lucca, Harriers-Wippern; Fräulein Börner, Frieb, Grün; Herren Wachtel, Niemann, and Betz. The Berliners are proud of their Opera, and they have reason to be so. There has not been any positive novelty in the repertory, but Mozart's *Zauberflöte* has been played for the three hundredth time, with "entirely new scenery, dresses, and decorations," to adopt the time-honoured form of expression peculiar to London playbills. The performance was regarded as a kind of art solemnity, and everything done by the management to render it worthy of the immortal music. Before the curtain went up, a paper containing a mass of interesting information regarding the opera, such as the names of all the artists who sang the principal parts at the Royal Opera-house, Berlin; the dates of the various representations of it there, &c., was distributed gratis among the audience. The scenery was magnificently painted by Herren Gropius and Lechner, and the costumes were models of refined taste. Advantage was, moreover, taken of the great progress in the stage machinist's art to impart additional effect to the fairy portion of the story. All persons concerned—leading artists, chorus-singers, and musicians—exerted themselves to the utmost, and with its three hundredth performance *Die Zauberflöte* may be said to have entered on a new career of success and popularity. There has been no lack of concerts, and very good concerts; but they do not call for any particular notice.

Der Freischütz is said to be a very great success at the Théâtre-Lyrique, Paris. It may not be generally known that this opera was first introduced to the Parisians in 1824, at the Odéon, and performed one hundred and forty-two times in the course of one year, though very nearly proving a complete failure on the first night, in consequence of a series of ludicrous blunders and unfortunate *contretemps*. The first tenor was so hoarse as to provoke the continuous hilarity of the audience, and the Hermit sang so out of tune that the curtain had to be dropt before the opera was concluded; then the *mise-en-scène* was something marvellous. In the first act, where, according to the French version, the fortunate marksman has to shoot a dove, the unlucky carpenter charged with this part of the "business" let fall, instead of it, the eagle or vulture, which Max brings down with the charmed bullet he obtains from Caspar. Our readers may imagine the hilarity of the audience at beholding, instead of a delicate dove, a misshapen feathered mass, more like a turkey-cock than ought else, fall upon the stage like a lump of lead. The manager, mad with passion, could hardly be restrained from assaulting the offending carpenter. At length he was mollified, and told the man that the vulture was not to appear till the scene between Max and Caspar, and moreover, that it ought to flutter about a little before sinking finally to the ground. Fully resolved to carry out these instructions to the very letter, the carpenter procured a long piece of string, and fastening his plumed monstrosity to it, waited patiently above the stage, for Max to fire. At last, the long-expected shot was heard, and the carpenter slowly let down the vulture. He kept swaying it, however, so long to and fro, that Caspar, who has to stick one of the feathers in Max's cap, could wait no more, but, jumping in the air, seized the bird by the tail, and forcibly pulled it towards him amid inextinguishable shouts of laughter from all parts of the house. The hundred and forty-one representations which followed this first one must not be entirely attributed to enthusiasm for the music. There were very many persons who could never see, or rather hear, anything in it, and a certain celebrated composer even went so far as to assert that all that was requisite to manufacture an opera of this kind, was to dip a camel's-hair brush in ink, and then spurt the latter over ruled music paper. The "Huntsman's Chorus" became, nevertheless, for Paris, what the "Bridesmaid's Chorus" was for Berlin; and we know it drove Heine from that capital. In one French paper of the period there was an advertisement for a man-servant who did *not* whistle the "Huntsman's Chorus." In 1835, M. Crosnier produced *Der Freischütz* at the Opéra Comique, where it was played sixty successive nights. In 1855, it was brought out by M. Perrin for the first time at the Théâtre-Lyrique, and enjoyed a run of one hundred nights. Among the novelties promised at this theatre may be mentioned *Deborah*, words by Plouvier, music by Demin Duvivier; *Sardanapale*, words by Beck, music by Joncières; *Cardillac*, words by Nuitter and Beaumont, music by Dantresmes; and *Roméo et Julie*, by Gounod.

The great attraction at the Italiens is still Mdlle. Adelina Patti, who, luckily for M. Bagier, has recovered from her late indisposition, and resumed her parts in *Regoletto* and *L'Elisir d'Amore*. Pacini's *Saffo* has been revived for Mdlle. Lagrua, but it has not proved a success — Herr Joachim has been playing with immense success. He is the lion of the moment in all musical circles—the rehearsals of *Don Carlos* are being actively continued at the Grand Opera, under the direction of Verdi himself.

REVIEWS.

The Autobiography of the late Salmo Salar, Esq. Comprising a Narrative of the Life, Personal Adventures, and Death of a Tweed Salmon. Edited by a Fisherman. Day and Son (Limited), London.

PROFUSELY as the subjects of salmon-fishing, salmon-breeding, and salmon law have been written about for many years past, the ingenious author of the little work before us has contrived to treat them in a novel and most attractive manner. His pages, which are clearly the result of sporting experience, careful study, and love of nature, profess to record, from dictation, a salmon's personal experiences from the egg to the fatal landing-net, and present the fish's own views of the natural history of his race, and of the ways and works of his friends and enemies. The waterside sketches are the most diverting things of the kind that have come under our notice for many a day, and we need make no apology to the reader for extracting at length "The Baillie's misadventure in search of 'Saumon Roe.'"

"I was lying listlessly one day in summer thirty feet beneath the surface, beyond the influence of the rapid stream above, in the fathomless pool called The Pot, some half-mile below Merton Bridge, a boat, kept in its place by two light oars, floating above me, when the fragments of a conversation reached my ears, which by degrees absorbed my attention. A river-keeper was detailing to his employer the circumstances connected with the capturing of a poacher.

"'Ay, sir,' he said, 'but that saumon-roe is a sair temptation; mony a guid mon has been beguiled by it. A' ken ane, a baillie; a' took him mysel.'

"'How came that? Tell us all about it,' was the reply.

"'A' was watching, mebbe six months syne, up in the Pavilion Water; the fish were thranging sair upon the spawning-beds, and weel a' kent they were thrang on the bank abune the Whirlies. A' was hidden in the wee brae just abune the brig, and a' hadna' been there mebbe twa hour, when a' see a mon come daintily alang. Looking carefully this way an' that, an' seeing naebody, he just out wi' the gaff, an', screwing it on to the end of his walking-stick, stepped lightly into the water. It wouldna' be mickle abune his knee, an' the back fin o' meir than ae great fish was plain to be seen on the bank before him. 'Deed, but he wasted little time in selection, an' varra little ceremony he treated him with. In a second the gaff was in a puir half-spawned beastie, an', lugging her ashore, he started aff het foot towards Melrose. A' up an' after him an' for a weighty mon he made mickle running. When he saw me he dropped the fish, but no stopping to pick it up, a' just kept on under the railway brig, down the meadows, by Ailwand Foot, under Melrose Brig, an' there, as he was creeping up the steep bank, a' grippit hold of him ahint; a' grippit hard, an' he turned and said, "Sandy, lad! dinna grip sae hard; ye'll rive ma breeks." "Ay, Baillie," said I, "is that you? How cam' ye to do it?" And he said quite solemn-like, "Sandy!" he said, "it was neether the need nor the greed, but *joost the saumon-roe!*" "Ech, Baillie," a' said, "a' wadna' have believed it of ye, but it will be dear saumon-roe to ye." And sae it proved, for he was fined five pund, and ither harm cam' of it.'"

On the very high authority of "Salmo Salar" the author elects to differ here and there from naturalists and sportsmen who have preceded him; but without a trace of the asperity which, singularly enough, is sometimes adopted in their prolusions by followers of the gentle art. On the vexed question, for instance, whether a parr is a salmon, or in other words, "when is a parr not a parr," he is at utter variance with the legislature, which has endorsed the opinion of many *savans* that the fishes are indentical. "Salmo" reports as follows, a conversation between two anglers, one of whom had hooked him during his "Smolthood," and then returned him more than half dead, limp, faint, and bleeding to his native waters.

"Although too weak to move, I retained my senses, and heard the younger man say to his companion—

"'Why, John, what made you throw that poor little dead beast into the water again?'

"'Deed, was the reply, 'yon beastie's just a smolt, an' there's a fine for killing sich like.'

"'But you killed a parr just now?'

"'Ay.'

"'But you call this a parr?'

"'Deed, an' it's the fau't of those who gie the same name to twa different fishes.'

"'What do you mean?'

"'A' mean that there's a wee fish ye killed just noo cae'd "the parr," an' it's a fish of itself, an' has melt an' roe as every ither fish has, an' ye'll find it in rivers an' burns, an' abune waterfalls, an' in mountain tarns, where no saumon ever yet was seen or could get, an' it's streekit an' barred all the same as the young saumon-parr; and it's just the confusion of ca'ing the twa by the ae name that's raised a' the fash that's made about the "edentity," as they ca' it, of the parr with the young saumon.'

"'Then you believe that the parr is not the young of the salmon?'

"'If ye ca' the young saumon the parr, the parr is the young saumon; but there's anither parr that has a better right to the name, an' it's a pity that twa fish should be bund to hae but ae name betwixt them.'"

The Salmon's way of accounting for his own rapid growth must be the last of our quotations.

"I have heard wonder expressed that so small a fish as the smoult should, in a few short months, increase from the weight of three or four ounces to that of frequently twice as many pounds. But where is the wonder? My mother, who was murdered on the spawning-beds before half her eggs had been deposited, weighed twenty pounds; the noble kipper, her companion, half as much again. What would be the weight at more than two years old of a dog, offspring of parents such sizes? And was ever puppy fed as we were fed? No! *Fortes creantur fortibus.* Large animals and large fishes produce large offspring, and when I left the sea and again ascended my native Tweed in July, I weighed nearly seven pounds."

The portions of this now connected autobiography, which appeared from time to time in the pages of "Macmillan's Magazine," are already familiar to a large circle of appreciative readers, and we may safely predict that very general favour will attend their publication in a new form, and with important additions.

The Light Blue. A Cambridge University Magazine. Vol. II., No. 1. January, 1867. Cambridge, London, and Oxford. Rivingtons.

WE are glad to see that the conductors of "Light Blue" have successfully stemmed the perils of a first volume, and have entered upon their second in high spirits; a piece of good fortune which many a well-considered attempt to found a University periodical has not attained. The contents of Vol. II., No. 1, are varied and of promise. The political paper at its head, entitled "The Prospects of the Conservative Party," is judicious and carefully balanced. Mr. Swinburne's poetical excesses are ably and temperately treated, more in sorrow than in anger. A series of papers on University topics is well inaugurated by one on Cambridge classical honours, and the author has sufficiently at heart the fame of his *alma mater*, and the future of her sons, to pronounce that she might advantageously adopt

portions of the Oxford system. We look for good things from the writer of "Walter Boothe," a new serial story, which, it strikes us, will develop interestingly. The Book Notices, and the carefully edited University Chronicle, are not the least valuable features of a magazine, whose career, judging from the specimen under notice, will be watched with interest by Cambridge men both young and old.

A Century of Sonnets: Lines on the Burns' Commemoration of 1859. *The Funeral of Canning, and other Verses.* By Jacob Jones, author of "Rural Sonnets," "Inez de Castro," "The Anglo-Polish Harp," etc., etc. London: Alfred W. Bennett, 1866.

Mr. Jacob Jones is not afraid of challenging comparisons. When he enters the "spot of all spots," *videlicet* the "Shrubbery at Southend," he salutes it as wooing the "fav'rite sons" of contemplation, and proceeds to enumerate four of them, thus:—

"Again the knoll: where Milton might have dream'd.
* * * * *
Where Shakespeare might have drunk at Nature's shrine;
Or Collins nursed the ecstacy divine;—
Where first I sang, that 'Poland shall be free;'
Where later, for her woes, I shed 'a tear.'"

The last lines allude to two *Lyrics* by Mr. Jones, as he informs us in his notes. We are sorry to say that the information was needed. We are sorry, also, to learn that his *Iphigenia* did not obtain the *Newdigate* at Oxford in 1819: it is quite equal to many successful prize poems. This first gush of youth has been fairly rivalled by later effusions; and if any of our readers happen to look into Mr. Jones's present volume, they will probably not be disappointed.

The Savage Club Papers. Edited by Andrew Halliday. Tinsley Brothers.

This elegant production is creditable alike to the worthy Savages who have so well furnished forth its pages, and to the publisher who bore the charge of the adventure in his department, and thus enabled the Club to comfort speedily and substantially under her bereavement, the widow of a lamented comrade. The "Savage Club," so called after Richard Savage, is an institution of which, though many have heard—few, but the initiated—know much. It was perhaps as well that the ferocity indicated by its title should be authoritatively disclaimed for the body by the clever editor as follows:—

"It has been recklessly stated in a respectable journal by a writer, who knowing nothing of us has either been misled by false reports, or prompted to wild imaginings by the terrors our name, that we are a set of ill-conditioned malcontents, dwelling in the very centre of *Bohemia*; that our Club is a sort of literary cave of Adullam, into which the disappointed and the discontented have retired to set up their backs at every thing that is good and noble and worthy to be admired. There could not be a greater mistake. Nothing could be further from the truth. The qualification for admission to our Club is to be *a working man in literature or art*, and a good fellow. If a candidate answer these requirements he will be cordially received, come whence he may."

The list of literary contributors comprises the well-known names of T. Hood, T. W. Robertson, E. L. Blanchard, and a host of other gentle savages less familiar to the public. Thirty illustrations of more than average merit include specimens of Harrison Weir, Gustave Doré, George Cruikshank, Ernest Griset, and the last work of Paul Gray, whose premature death was a subject of the deepest regret to his friends. The typography, the paper, and the binding are all excellent, and the success which has attended the "Savage Club Papers," has rendered any vaticination of ours superfluous.

CAROLS AND VALENTINES.

By H. W.

"AND so now farewell to the mistletoe," said the king of Twelfth-night.

"Nay, let it hang a little longer," quoth the queen; "there are some berries left which look tempting to the poor girls. You and I, indeed, have had enough of it. We have pleased the youngsters for a night, and now our reign is over."

"Stay," said the king, "we cannot lay aside our majesty till daylight. We shall soon change the throne for the desk; but, meanwhile, play out the play, and let us speak of our princesses. *Wassel*, methought, filled the cup with the grace of her Saxon godmother, the daughter of Hengist: she stood before me like a second Rowena, saying, 'Wassail, my lord king!' and I pledged her, like a second Vortigern, my kingdom for a kiss."

Queen.—"*Wassel* always makes herself at home at a Christmas gathering, and I took care that her bowl should not be too potent. Yet still those boisterous lads, *Misrule* and *Gambol*, began to get unruly; and so I made *Wassel* empty her bowl and use it for snap-dragon. But I was quite sorry for poor Cis—I mean for Princess *Mince-pie*."

King.—"Surely *she* had dancing enough: did not all the boys ask for her?"

Queen.—"All, except the one she had counted upon—the son of good Mistress Horner."

King.—"We remember it now. Neighbour Jack must learn that blushing in the corner will never win our sweetest of princesses."

Queen.—"And then, in the middle of the dancing, that round little rascal, *Plum-pudding*, got in her way, and threw her over. I put her to bed in the sulks, poor thing. However, she will be all the readier for the dance another night."

King.—"She will find plenty of partners, we warrant." The king paused; and then continued, more gravely:—"Dance-music is good; it tickles the brain, and sends the blood tingling down into the feet: but it cannot touch the heart like that solemn pastoral music which accompanied the singing of our chorister boy, cousin Carol." *

Queen.—"Played by our guest in the mask with *V. H.* on it. Charming, indeed! But who was *V. H.?*"

King.—"This is the season of mumming, and we must not pry under the mask too curiously. A guest like *V. H.*, moreover, is welcome in any season, with or without a name. As for young Carol, his utterance was hardly smooth enough for singing. His younger brother, who will take his place next Christmas, promises (we are told) to have a voice better suited to music. Let us hope that the music may be as good." Again the king paused. "It is idle," he resumed, "to dream of fresh hollies, before the present ones have grown stale; but their time must now be limited."

Queen.—"They will all be swept away on the 2nd of February."

King.—"True, Candlemas Day belongs to the full festivity. But when the day arrives, mind you do your sweeping briskly. 'For look,' saith Herrick in his *Hesperides*—

'For look how many leaves there be
Neglected there, maids, trust to me,
So many goblins shall you see.'

A warning as 'grimly' as *Margaret's Ghost*, and well suited

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* The speaker evidently alludes to the music of *The First Christmas Carol*, lately published by Robert Cocks & Co.—Ed.

to the 'grimly' month, when the sky is lead, the air is fog, and earth and water are mingled mud and ice. No holidays then; no pretty gifts for the maidens of the mistletoe!"

Queen.—"Please to remember poor St. Valentine!"

King.—"Avaunt! Cannot womankind get through the shortest month of all without the help of a lazy Romish saint?"

Queen.—"Your most gracious Majesty——"

King.—"Craves pardon of his queen. We were wrong in every way. We are bound to keep up our festive character; and, moreover, we have ourselves received many a kindness from the lord of filagreed note-paper. Indeed, a reminder has already reached us."

Queen.—"The present is so absurdly premature that I forget to be jealous."

King.—"There is no call for either frowns or laughter. We speak of designs that have been sent us for approval; nothing more. They were loaded with the perfumes that have often refreshed us in the bills of the Lyceum or the Haymarket; there was no mistaking the breath of Rimmel."*

Queen.—"We presume that they are sentimental."

King.—"From top to toe: no figures of fun, we assure you. They closely resemble those dancing flowers of the pantomime, that have more than half supplanted the old grotesques. The flowers are prettily drawn and coloured, and the French-looking fairies that wear them will please many a love-lorn youth. For ourselves, however, we have never sent a sentimental valentine."

Queen.—"Would it offend your royal ear if I sang you one of that description?"

King.—"By no means! It will tune our head for the pillow."

So saying, the king leant backwards in his easy chair, while the queen bent over her harp, and sang the following lay to a tune of the future:—

THE BOY BISHOP.

The maiden awoke in the silence of night,
For the depth of her chamber was gleaming with light:
She leant on her elbow,—a vision was there,—
A child with a mitre of gold on his hair;
A violet rochet this boy-bishop wore,
And the light seemed to flow from the crozier he bore.

But over his rochet were cheeks full of smile,
And under his mitre were eyes full of guile,
And roguish the laughter that mixed with his lay,
"Awake! for I bring thee first-fruits of the day!
'Tis a sigh,—from the heart of a poet it came;
And I charge thee to read,—in St. Valentine's name!"

The maiden arose,—but the nearer she drew,
The taller and fuller the bright vision grew;
And the mitre was changed to a crown like a king's,
And the rochet flew back into violet wings;
And, quickening the air with the breath of desire,
He leant on his sceptre—a cresset of fire.

She knew him—her master!—she knelt at his feet,
And faster, though softly, her white bosom beat;
And she gazed at the tablet he held in his hand,
But many may read it, yet few understand.
Oh, master of hearts, stoop again from above,
And again let her read it by torchlight of Love!

When the echoes of the queen's harp had died away, the king spoke, and his voice was like the voice of the Sphinx of Stodare:—"We see the maiden and her poet still sitting apart, after years of shilly-shallying; and they are exchanging valentines, not of honey but of gall."

Then the queen said, laughing, "Oh, false prophet! for they are sitting, happily united, under the long torch of hymeneal Cupid."

King.—"The words of your lay sounded familiar to me: but surely there should be more of them. The boy may grow as serious as you please at the end, but he ought to be a little more sportive at the beginning."

Queen.—"Even so; a few lines have been omitted."

King.—"I begin to think I can guess who sent them."

Queen.—"I am sure I know who received them."

The queen touched her secretaire, and a hidden drawer sprang out of it; and she drew forth a rose-coloured envelope. She turned towards the king. Their eyes met, and they both rose from their seats; and each seemed to hear solemn music in the distance.

* Rimmel's *Animated Flowers*, drawn by J. Cheret, for specimens of which, as shown on the opposite page, we are indebted to Messrs. Rimmell.

OLLA PODRIDA.

ON WATER-FILTERS.—The sources of water-supply to London are at present subject to so much defilement, and it is likely to be so long before that evil is remedied, if ever it can be, that the study of the means of purifying drinking water—that is, pure water from a foul supply—is a subject of importance to all, and one on which medical men are very likely to be called upon to advise. The current number of the *Popular Science Review* contains an excellent article on the subject, discriminating the various merits of the moulded carbon filter, Danchell's animal carbon filter, Dahlke's silicated carbon filter, and Spencer's magnetic carbide filter. The article, which is well worth reading, is by Dr. Divers, a very able water-analyist; and although we could have wished for more definite conclusions, we can understand that there is a great difficulty in speaking very positively as to comparative merits. His final conclusion is, that

"In the magnetic carbide filter of Spencer, the cistern-filter of Danchell, and the silicated carbon filter, we may possess with tolerable certainty the means of freeing water from matters injurious to health. The uncertainty lies in the fact that the particular filter used by a person may be imperfect as a mechanical filter, and may have become inefficient as a purifier from dissolved organic matters, unless, as regards the latter point, it be a Spencer's filter, and have only been used with water of tolerable clearness (such as that supplied to London), and not largely charged with carbonate of lime in solution. Hence arises the propriety of having a filter examined after being placed in a house, in order to test its efficiency. This ought to be done by the filter-sellers." The verdict is most favourable to Spencer's magnetic carbide filter, but hardly so much as it deserves.—*British Medical Journal.*

IN THE TIME OF THE ROMANS Algeria supplied the gourmets of the Empire with truffles and some other gastronomic delicacies; at the present moment it serves amongst other things, as a valuable kitchen-garden for France, and supplies the citizens of that empire with new peas, potatoes, and asparagus, before even the hottest part of the south of France can get *les Primeurs*, as early productions are called in Paris, ready for the market. The peas and asparagus of Algeria are not so fine as those of France, especially the latter, for which French growers are renowned. But in February, when French asparagus is selling at the rate of twenty, thirty, and even forty shillings per small bundle, that of Algeria can be had for less than a third of the money. In the third week of February last year, Algerian potatoes were worth, in the central market of Paris, half-a-crown a pound, when those produced in France were twice that sum. At the same time, Algerian peas were selling in Paris at half-a-crown a pound, shells included; so that a good dish of *petits pois* at this season would have cost about two guineas. Algeria also supplies France with a large quantity of oranges—those of Blidah being very good—lemons, citrons, pomegranates, and dates, for all of which there is a considerable demand.

RIMMEL'S
NEW-VALENTINES
ANIMATED FLOWERS
DRAWN BY J. CHERET

NATURE AND ART

March 1, 1867.

BIZZ AND HER FOES.

By Mrs. S. C. Hall.

IN THREE CHAPTERS. CHAPTER III.

FIFTEEN years elapsed, and the memory of "Bizz and her Foes" faded into the indistinct past. Cooks, in their varieties, came and went: not many, though, for I generally manage to obtain good servants, and mine have been fairly contented with a good service. But Mary's shadow, as it were, would sometimes arise, and I wondered how she had fared in her new country. I thought how delightful were her quaintness and originality, and then remembered how I had never believed in her, and how *that* of itself had always given me a painful sensation: yet, with time, even that memory grew dim! The dear old Rosery too became a thing of the past; young artists, in poetry as well as painting, who had met and talked over their future, beneath the shadow of our grand old Mulberry, had grown into the glories of a present time, winning and wearing laurels that will be ever green in history. The greyhounds mouldered beneath the turf over which they had bounded; another race of cats sat on the stable roof, and defied the garden walls; another generation of boys swarmed in Steward's Grove, and rubbed their sticks against the garden rails. The Rosery, alas! was ours no longer; we had found a home more fresh and tempting, twenty long miles from London, having a lawn without blacks, and trees and gardens fresh and fair, where, moreover, there was abundant space for pets of all kinds—pets, that augmented in interest the longer they were known. To many people a dog is but a dog, and a cat a cat:—

> A primrose by the river's brim,
> A yellow primrose was to him,
> And it was nothing more!

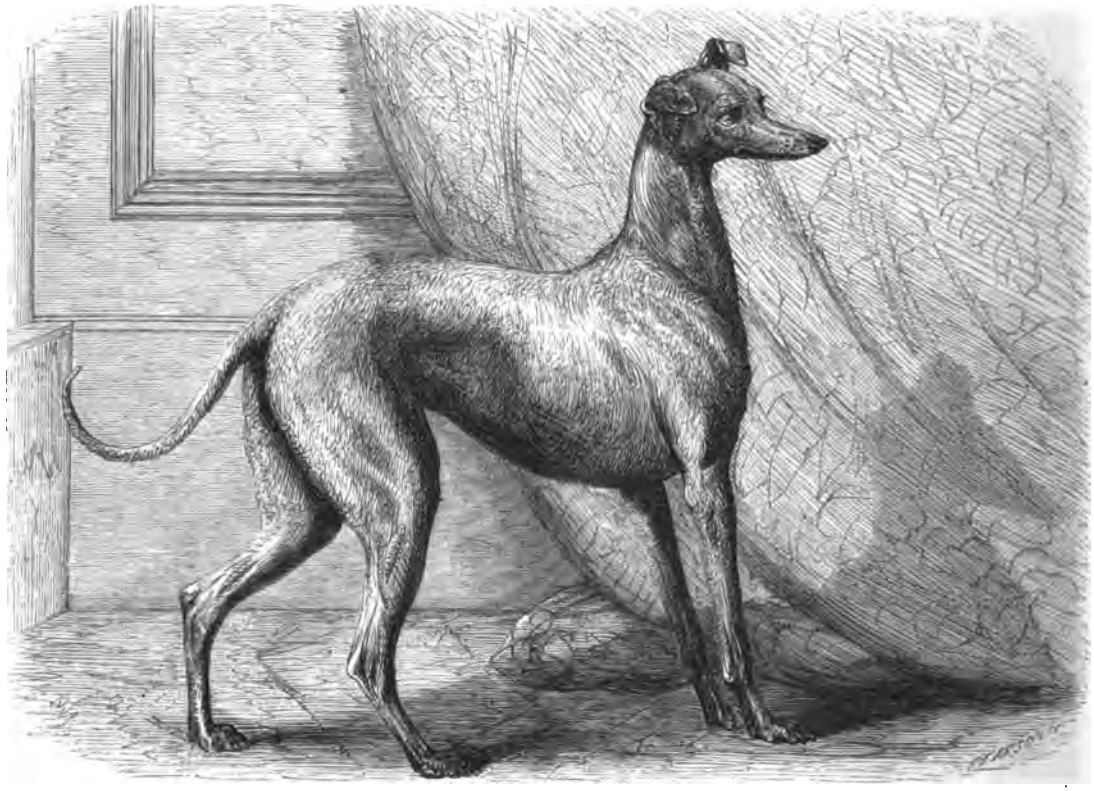
I pity those who can neither observe nor analyze the various shades of animal character. I have had dogs of all kinds; sometimes two or three born of the same parents, fed in the same way, equally caressed, and in like manner educated; yet each had its own peculiarities. The Italian greyhounds I have mentioned were as opposite in temper, disposition, and intelligence, as if they had been of separate and distinct species. Ninon was a grave, thoughtful, wise animal, gentle and attentive to every member of the family, but devoted to me, and to me only. She would remain in the library without motion during the five or six hours that I bent over my desk. No one could tempt her from my side; even if a strange cat looked in at the window; Ninon remembered I was not to be disturbed. Her eyes would flash fire at the cat and her beautiful frame quiver with excitement; but she would neither stir nor bark, unless I whispered, "Up, and at her." That was enough; at one bound she cleared the intervening chair, and once she charged so violently against a closed window, that the broken glass wounded her head severely. But the moment I wiped my pen, or placed it in the little vase of water kept for the purpose, she knew that my morning's work was done, and sprang about the room with manifest joy. She welcomed my friends with stately approbation and as much cordiality as she considered it right to bestow on any one except her mistress; but she disliked strangers, and kept up a sort of undertoned remonstrance at their being admitted. She was very particular as to dress, sniffing at anything that was old or shabby, and rejoicing if I put on what was new and handsome. She always examined herself in the cheval glass, and twinkled her ears about, as if she desired to see whether they looked best in repose or in action. She would literally smirk and smile at herself in the glass, showing her teeth, that were even and perfect as a row of oriental pearls, with evident pleasure: she would fetch and carry,—"die for the Queen,"—and take nothing out of the left hand. When spoken to, she held her head on one side with an air of consideration, and comprehended with wonderful sagacity whatever instructions were given. "Ninon, I am going to be very busy," sent her to her place on the rug;—and if I added, "When I have done, we shall go for a walk or a drive," she would look up with a peculiarly pleased expression.

But the creature so perfectly understood my words, that if I said "drive," though several hours had elapsed, she would spring up when my task was done, and, instead of rushing out, would wait patiently until the brougham came round, to take her place in her own corner. If I had promised her "a walk," she would cry at the hall-door until it was opened, then leap and spring over the lawn, as greyhounds only can leap and spring,—never losing sight of the door out of which she knew I should come.

Folly and Jessy were lovely to look at, exquisitely formed, with large, luminous hazel eyes. Ninon was larger, of the colour which is called "blue:" she treated these two favourites with great kindness and consideration, but never with the respect she manifested for a dear wise dog named Rose: in fact, she considered the two little greyhounds what poor cook would have called "born naturals." They received strangers with the same wild demonstrations of joy they bestowed on their friends; it was impossible to teach them any tricks, or induce them to notice any sound—except the dinner-bell; and I really think the only affection they felt was for chicken bones. The great honest Cochin-China cock craned his long neck at Folly's senseless gambols, and a grey bantam always drove Jessy screaming away from the wire-work that protected him and his glossy wives from intrusion, and through which that silly dog twenty times a day would endeavour to poke her nose. Now these three greyhounds had been educated and treated exactly alike, yet two were fools, and one was wise.

Ninon was such a noble creature that she was never displeased at any amount of caresses bestowed on her relatives; but she would not suffer them to accompany us in our road walk. The garden and the meadow—yes,—but not the road: she would look at me, and whine, and then drive them home. She knew as well as I did that they would spoil our walk, and that we could not enjoy anything, if we had to keep a perpetual watch on Folly's and Jessy's movements. There was a time when Ninon did not object to their company in a drive; but once Jessy sprang out of the window, and, being much hurt, yelled and screamed in my lap all the way home. I do not know what was Ninon's opinion of the accident, but she held down her head and looked ashamed and distressed, and she never would take another drive with Jessy. If Jessy went in, she went out; her resolution was made, and she adhered to it.

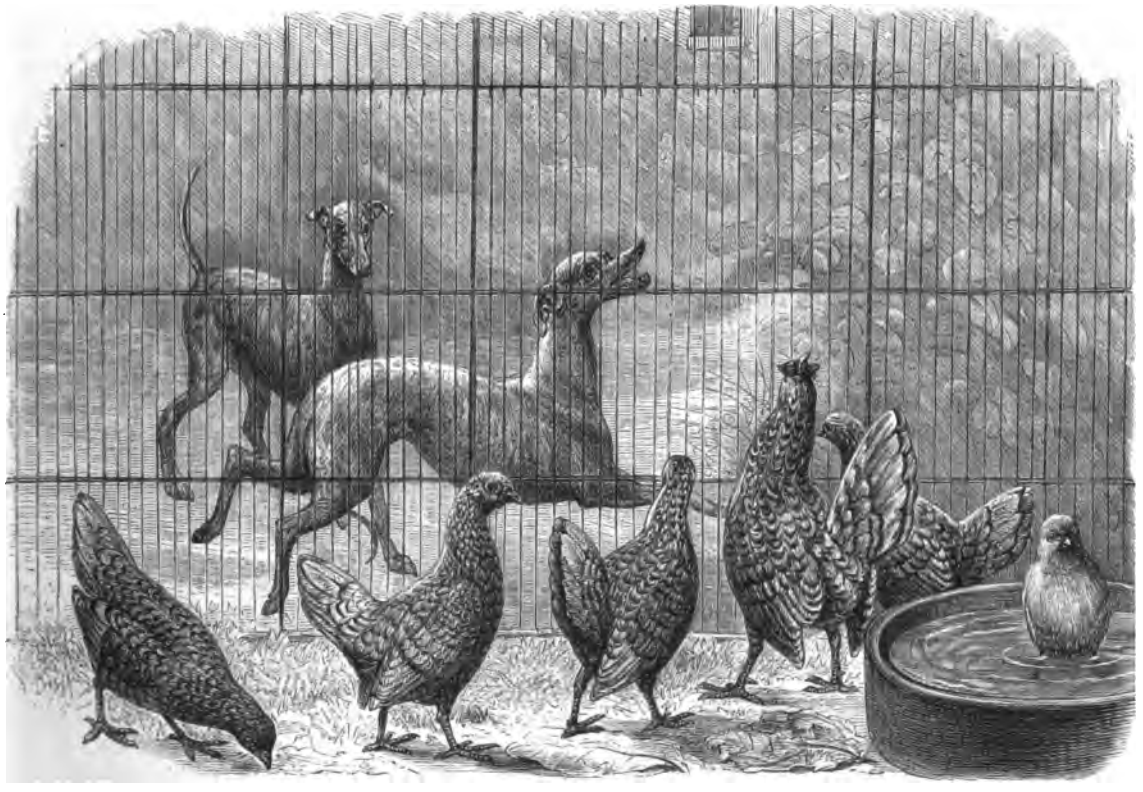
Besides being the most consistent of dogs, she was so honest! She would neither thieve, nor suffer others to do so. It was grand fun to set her to watch the breakfast table. Jessy and Folly, Mouton and Mince (the latter, two unprincipled Angora cats) were ever on the *qui vive* to steal what they could;—as to Jessy and Folly, they would devour anything from cats' meat to candles. So sometimes putting Ninon as sentry and "on honour," I watched the proceedings from outside. First came



Ninon's warning growl, which plainly meant, "take care;" then a rush on the part of dogs and cats to pillage, and on Ninon's to restrain; then at last a regular *mêlée*. Ninon, who occupied the middle of the table, rapidly dealing a snap here and a snarl there, succeeded pretty well in keeping off the cats, but the two greyhounds were generally too much for her; so the fear that she might lose her temper, and inflict a severe bite on one of them, always, sooner or later, brought me on to the field to terminate the skirmish.

There was no doubt that Folly was a greater fool than Jessy, for Jessy was sly: the latter had sufficient intelligence to be very cunning, stealing and hiding things she fancied, but Folly took what she desired openly, and never hid even a bone. They all differed from grand old Rose, a fine noble dog, such a dog as you make an out-door companion and friend of, in the country; who walks with you, sympathizes with you, and does all but talk, and gets through even a little of that, in its own way. She was a cross between a retriever and a Newfoundland. She would not kill rats herself, but she used to watch their haunts in the bank of the pond, and take a little, grubby, rat-catching terrier, whom she patronized (he was a visitor, not an inmate), to the holes, show them to him one after another, and leave him to do the dirty work himself. She loved her master dearly, and always endeavoured by her gentle, dignified caresses to attract his attention; but, like most of his sex, the knowledge of his power made him exercise it, and when he read under the shadow of our acacia trees, Rose would sit for ten or more minutes with her nose on his knee looking at him with her small dark eyes, patient as Grizel, and then, in addition to her nose, would put up her paw, and wait again. When these arts failed to woo the notice she coveted, she would go behind him, place her two paws on the back of the iron seat, and then in a moment snatch off his hat, and gallop with it to the other end of the lawn. That was certain to commence the game of the romps she loved so well.

Dear, faithful Rose! You ought to have passed your winters in the stable, with the horse you understood, or with the wee pony, who was not much bigger than your dear self: the winter kennel did not sufficiently protect you against the cold, and you became rheumatic, and died before your time; but we had happy days and happy rambles together, over Weybridge Common, and among the brushwood and hollows of St. George's blithe and pleasant hill. Other rambles we had nearer home, when the Italian greyhounds were taken for "change of air" to the Chertsey meadows, where the ruins of the fine old abbey can be traced beneath the waving grass, or up and about St. Anne's Hill, where I looked out for the proud castle of Windsor, while you tried hard to catch a hare, or even a rabbit; but they were too swift for you, my own old Rose! You grew fat and heavy while you ought to have continued slim and genteel. I loved you for the sake of her who gave you to us, and because you were like the



friend of my childhood—black Charger. Charger was once dreadfully mauled by the butcher of Carrick's big dog—and we thought he must have died. I considered myself very ill-used because my mother would not let me sit up with Charger at night: I cried myself to sleep, curled up like a cat in the window-seat, and fancied the sea moaned in sympathy with my sorrow! But Charger recovered, and then his steady friend and firm ally, Neptune,—a colossal Newfoundland, as large and in general as dreamy as a calf, a giant among dogs, who seldom barked, or ran, or wagged his tail, but lay "i' the sun in summer" on the square stone that topped the steps leading to the hall-door, and in winter, on his own particular mat in front of the old clock in the hall:—this great dog entertained the deepest feeling of revenge towards the dog that had so grievously ill-treated his friend, and when poor Charger was able to limp up the hill of Carrick, which was more than a mile from Graigue (the dear old home of my young days), Neptune accompanied him, cold and silent and stately as ever, step by step with his lame friend, and they soon discovered the great bull-dog, nodding in the sun before the butcher's house. Charger was a little in advance of Neptune, and when Bull saw him, he arose, and shook himself, and glared, advancing a step or two, as though to say, "Oh, it is you,—I will soon finish you, puppy." But Neptune stood between them, not suffering the bull-dog to touch his friend, and meeting the charge like a hero. The bull-dog was fierce and active, but independent of his great strength, Neptune's throat was protected by a brass collar, and his thick, shaggy coat was a natural armour of defence. The dogs fought like tigers, the bull-blood was thoroughly heated, and the Newfoundland knew the value of his weight and size; yet the odds would, for all that, have been dead against Nep, who was aged, while his antagonist was in his prime, but for the protecting collar. The bull-dog held on to it like grim death, wondering, doubtless, that his opponent was not strangled: both dogs were punished, but Neptune would have certainly closed Bull's fighting calendar, only that the fight was put an end to by the butcher and the smith,—the butcher anxious for the safety of his dog, and Mr. Bow, the smith, determined that Neptune should not be "kilt intirely." Charger, we heard, stood calmly at a distance, looking on: now he was not a dog to do that when his friend was spilling his best blood in his cause, if it had not been previously arranged between them, that Charger should keep out of the fray: it was the more remarkable as Charger was generally pugnacious, hearing the sound of battle afar-off, and rushing into the combat in true Irish fashion, without waiting to investigate the question of rights or wrongs. Neptune must have had great influence to compel his remaining stationary. The dogs were away the entire day, and when Nep was discovered with unmistakable marks of recent combat on his person, and Charger in the very act of licking his wounds, the household surged into great commotion. "Where had he been? Who had dared to hurt him? Charger and he couldn't have fought?" "No, Charger was as smooth as satin." The arrival of the smith, who was also somewhat of a dog-doctor, solved the mystery: he related the whole affair with eloquence and emphasis, and gave a sorry account of the state of Bull's shoulder, which was supposed to have been broken. It was well known how the brute had fallen upon poor Charger, so he had very little sympathy from our household; and Neptune's health was drunk that night in the servants' hall, with I fear more than three times three, the sentiment which accompanied the toast being—"May we all have as true a friend when needed!"

Generally speaking, if dogs are not sagacious, it is to be attributed to a defective education. Those who neglect to cultivate relations with the animal kingdom lose a great deal of what assists to cheer and invigorate life.

While my greyhounds and Rose, and a new importation, a lovely little white Lion dog of Malta (with various other beasts and birds), formed a very happy family at our country house, a puppy was given to me with the assurance that it was a beautiful Skye, a "Blue" Skye. Her rough little jacket was decidedly "foxy"—but my kind friend persisted in the assurance that she was a "Blue Skyë," all her relatives were "Blue Skyës;" and *she* could not fail to be a "Blue Skyë."

It was hoping against fact. Every day I looked at her, I trusted in her turning "blue;" but no, the fox deepened, and the hair grew fast and furious, hard, sticking-out hair. She certainly had beautiful eyes, and a lovely little round head, but it was far nearer akin to a spaniel's than to a Skye's: there had been a *mésalliance* somewhere. The short-rounded nose told a history, and some went so far as to stigmatize my "blue" foxy Skye as a "cur." This was hard to bear, for I always prided myself on the respectability and purity of my different canine families. I know "curs" are wonderfully intelligent and affectionate; and I have sheltered many a one. I once carried off a cur triumphantly from a conclave of boys who had broken its leg, and were debating whether it should be "swum," or "danced:" "swum" I am told means drowned, and "danced," hung. I carried it across Hyde Park at three o'clock, until we (doggie and I) got a hackney coach: poor, little, dirty, screaming thing! but when I laid it on my lap, and the creature looked up in my face, with such an appealing look, half agony and whole trust, I felt I could have carried half a dozen, if so rewarded. I cured that cur, but did not keep it: I found it a good home at our milkman's, and saw it frequently; and to confess the truth, the "blue" "foxy" Skye was a little like my long-ago cur of the "Long Water." I had not made up my mind what to do with her, when, with admirable sagacity, she placed herself! She adopted our excellent gardener: she fixed her affections on him, before she had quite shed her first teeth, and from that day to the present moment—and she is a very old dog now—Effie has never—I really may say never—left

him day or night. She had two strong passions: she loved her master, and hated donkeys. In the middle of the darkest December night, if a donkey, for whom its gipsy master opened the gate, trespassed on field or lawn, that dog would insist on her master's uprising and going forth in the darkness to eject the intruder. With wonderful instinct she would lead the gardener to where poor Long-ears was enjoying a late supper, and, had her strength but equalled her inclination, she would have torn him limb from limb. I must say the gardener returned her devotion, for a more indulgent master never lived; she grew handsome as she grew up, and her eyes were wonderful, so large and bright, but she never became "blue."

We passed seven happy years in that sweet valley of the Thames, and there is not a shadow on its memory! Latterly, Effie ceased to be annoyed by the donkeys; it so chanced that we did an act of kindness to a poor gipsy woman, who was stabbed (she said accidentally) while sleeping in her tent. The young surgeon of our village, with the tenderness and benevolence that belonged to his nature, saw her, and finding how much she required, came to us to help her. When she recovered, and before her party struck tents for other quarters, the gipsy woman, with her little brown baby in her arms, went round to those who had been kind to her, to thank them.

When she came to me, her great luminous eyes filled with tears, she kissed my hand repeatedly while kneeling at my feet,—

"The pretty lady," she said, "won't believe what the poor gipsy could tell. her of the lines on this palm, which are so filmed over, hard though some are, and crossed too, my pretty lady, but *filmed* over, by God's blessing. Sleep sweet on your pillow, you and the good master, you have never lost hammer or nail, berry or brush, since you passed under your own oak-tree at the great gate, and you never shall, lady, nor pigeon or chick, duck or hen, no, not so much as a flower, my pretty lady: and more, neither mare nor foal, nor even the great ass with the mark of the Christian, my pretty madam, on its shoulders, will ever open your gate again to taste the sweet grass: so the little sharp dog and its big master may rest by moonlight, or starlight, or no light. Never again!—for your gifts to the poor gipsy woman, and your care, and the sunshine you brought into her poor tent, have circled round your house, and you need never turn key or bolt door, while here you bide."

Whenever that woman—Myra Stanley—and her tribe visited the green lanes of Addlestone, she always paid me a visit, as one lady would to another, not to tell fortunes or to beg, and certainly not to steal, though I think my poultry-pens were a great temptation to her; she always regarded them with wistful looks, and then as she turned away, invariably said—"But you never lose anything, and never will, never will, my pretty madam!" and we never did. After Myra Stanley's recovery Effie and her master rested in peace. No "donkey, mare, or foal" attempted to "crop the sweet grass by starlight, moonlight, or in the dark."

The memory of those sweet and happy years has taken me away from my story.

We had been at Firfield more than five years, when, rather at an early hour for visitors (though some, I confess, are wickedly inconsiderate, and think far less of breaking up a morning's pen-work than they would of breaking a teacup), the servant brought a large card into the library, "MRS. SMITH" engraved on it in large letters, amid a foliage of flourishes; there it was, "Mrs. Smith,"—plain Smith, without the aristocratic "y." The name is by no means uncommon; I heard the other day there are 407 "Mrs. Smiths" in Brighton!

"The lady told me to say," observed the servant, with the becoming gravity of a well-bred domestic, who never evinces sympathy with, or for, anything—"the lady told me to say it was Mrs. Smith and a box."

"Mrs. Smith and a box," I repeated.

"Yes, ma'am, that was the message."

Mrs. Smith, a well-developed female, handsomely dressed, but with a greater variety of colour in her garments than I consider good taste, stood in the middle of the drawing-room, a large square box with a prominent brass handle on the top by her side.

She looked at me, and I at her.

"Ah then," she exclaimed at last, "don't you know me, ma'am? Sure I'd know you among a thousand. God for ever bless you, me lady."

The unmitigated brogue, the soft voice, the loving expression of those large grey eyes, told me who it was, though the form was so increased in size and portliness.

"Ah, you know me now, ma'am, and you'll know her too, though she's not in it,—that is, the whole of her,—and quiet enough now, poor thing! only she has her foes still, the moths and the cockroaches stir her up, though I'm watching them constantly, bad luck to them!"

She pressed a spring, and down went the front and sides of the box, and there sat Bizz within the rim of her potato-basket, stuffed, poor animal, not with sheep's-heads, as of old, but with—I know not what! and certainly to great perfection: the split remained above the white tooth,—one eye was closed.

"Yes," I said, "if that open eye could but wink, it would indeed be Bizz to the life."

"She had a long life, and a happy death according to her kind, ma'am," said my ci-devant cook, while turning the box into a better light,—"and might have been alive now, only she hated niggers worse than rats or cats. I told her often they war her fellow crayshures, but she wouldn't mind me, and one day, she tried to take a bite out of a little nigger's leg, who was stealing yams—if she'd had a tooth in her head to do it with, he'd have remembered it—but, poor thing, she couldn't hould her grip, and he slipped away, and grinned at her, the little aggravating blackamoor! And the disappointment and the passion choked her; but her

time was up, and she died, as she had lived, in the cause of duty. Still she was, though only a dog, off the same sod as myself,—my mother's (the heavens be her bed!) present to me, when she was a fractious puppy,—but I didn't mind that,—she was made of the clay of the ould country! me own faithful friend! Often on the rowling sea, I thought of this day, when I should let you see the remains of her,—bring her to you, ma'am dear, to have a last look at her, just out of gratitude."

She stooped to pat the dog's head, and muttered the "cushla machree" over it so tenderly: it was strange to hear such a radiantly-dressed woman speaking with such an accent: it was all natural and right for "Mary" to have the brogue, but I cannot describe my perplexity when I looked at "Mrs. Smith," while her words rolled out in the richest Munster!

"The rats," she said, "the villains, they found her out on the passage; there's nothing escapes them murderin' ruffians of rats; one would think they had a spite against her; I don't know how they got into the cabin, but they did, and many a long night have I sat on the box, with a soda-water-bottle in my stocking ready for them, (oh memory of the 'fair green of Ballynatrent!') I shouldn't have saved a hair of her, if I had not watched over her day and night.

"I've been greatly blessed, ma'am; I'm married to as good a man, and as kind, as ever stepped in two shoes, an independent gentleman he is now, and I've been able to send new vestments to the priest of Ballynatrent, and had a tombstone put above my dear mother, that as long as a shamrock springs from the sod will tell what she was, and where she is, for I never rested until she *was prayed out*,* and I heard the end of *him* you knew about three years ago, come Candlemas. So I could come back without fear or trembling, and my master longed for the old country."

There was a pause; it was difficult to realize the transformation. Mrs. Smith busied herself with crumbling camphor on the remnant of the dog's tail which stuck out as usual "quite natural,"—the voice, the sweet, loving eyes! yes it was a reality, but not without romance. I do believe she had put on all the finery she possessed in the very exuberance of her desire to do me and herself honour. *Could* that enlarged woman, glittering in chains from which depended such "knobby nuggets" as it would have been dangerous to show in a crowded thoroughfare, in bracelets of astounding size, ear-rings of wreathed ferns, and in that unmistakable Australian brooch, composed of a palm-tree, and a tuft of such foliage at its base, as would have driven a botanist insane—could that woman, surrounded by such an atmosphere of wealth, and looking so solidly happy, and fresh, and rich, have been the cook, who denied her country! It was more like a trick in a pantomime, than the revival of old times. Yes, her position was evidently changed, and why should I quarrel with her accent?—her warm, earnest heart was clinging to the associations of her early poverty and struggles, cherishing the very skin of that battered old dog, and believing (God bless her for her belief in human sympathy!) that I should enjoy seeing the glitter of her prosperity, and the moth-eaten skin of what (and I mean no disrespect to Mr. Smith) she certainly loved best in the world.

I was too bewildered for some minutes to ask questions. At last I said, "We should be happy to see Mr. Smith, if at any time he visited the neighbourhood," and then I admired Bizz, and stroked her coat, and said how well the character of the dog was preserved.

"Aye, sure,—but she'd have grown out of your knowledge without the white tooth. I had *that* put in,—and indeed Mr. Smith has great patience entirely on account"—but at that moment Mrs. Smith caught sight of a juvenile cockroach, who was seated on the top of Bizz's very shiny nose.

"There's one of them!" she exclaimed, while making a plunge at the doomed insect, "to think of her foes keeping it up that way, when I may say she has no body, and no breath. You used to say, ma'am," she added reproachfully, "that Bizz made foes by her bad temper:—sure, there's no temper in her now, and they won't let her alone!"

It was a treat to look at Mrs. Smith's face; there might be a little assumption of dignity, yes, *dignity* in her manner, carried out by her handsome presence, but the happiness, the simple, womanly happiness of seeing a friend, and being able to open her full, national heart to one who she knew would understand her, swept away all her pomposity. Looking earnestly into my face, and laying her solid fingers, cased in mauve kid, on my arm, she said,—"Ah, do now, ma'am, please to call me Mary, it would sound so sweet! there's no one calls me that now. Mr. Smith is so anxious to keep up my dignity, he always calls me Mrs. S."

Then she told me about her servants, and what her jewels cost, and dwelt lovingly and proudly on her husband's goodness and station; yet I saw she had something to say about him that hung fire, something that she could not quite frame words to disclose,—at last out it came,—"*he hated the Irish!*" Yes, it was quite true, "he hated them, he always said he'd never marry an Irishwoman; he told her so often."

"But," I said, "he *did* marry an Irishwoman."

A queer expression came over her face. "He does not know it," said Mrs. Smith.

"Not know it?" I repeated.

"Sorra a bit," was the reply.

I thought it perfectly unnecessary, yet I said, "Oh Mary, you should have told him."

It was now her turn to repeat, and she did so. "Told him! I shouted it at him, till I was a'most black in the face,—and plenty besides me did the same: good-natured mothers, who wanted him for their own girls."

"And he did not believe it!"

"He never heard it: he's stone-deaf, hasn't

* Out of Purgatory.

heard a sound these twenty years, poor dear man. He often says—'Mrs. S.,' he says, 'I'd die happy, if I could hear the sound of your sweet English tongue,—only once't,' he says, the dear, kind, innocent, good man."

"But you should have made it known to him somehow."

"Don't I know that? He should know it, but he doesn't, there's neither a black nor a white lie in it. I tould him hard and fast, and often enough, both before and since we were married. His cousin once't, out of a spite to me, wrote it down on paper that I was Irish, and Mr. Smith ordered him out of the house there and then!"

"But could not you write it?"

She crimsoned over cheek and brow in a moment.

"Oh, ma'am, sure if you'll remember you know I couldn't. Sure you might think of the milk-tallies, and the marks I made on the wall of the larder against the butcher's book. Sure, if I could write, wouldn't *you* have got a letter to tell you about poor Bizz? and the good fortune the Lord laid out for me, a poor, ignorant, half heart-broken *girl*! and it all came about through the fever Mr. Smith had, and none of his servants would go near him but me. Day and night I tended him for weeks, and when he got to be himself again, he made me Mrs. Smith, and taught me to talk on my fingers which I can do now famous. I think he'd die if he thought I was Irish, and I'm sure if he heard me spakeing this blessed minute, setting a case he was to the fore, he'd think it was French, or Italian, or German, I was talking, and where's the great odds? Sure, I hear it's the fashion now, for ladies and gentlemen to read, write, talk, and spell, every language in life except their own, and that's the cause (as I hear) of all the bad English that do be in books. They'll all have to be sent to Ireland, I'm thinking, to learn *raal* English; that is, the people that do be making the books, I mean,—and sure," she added with one of her sly smiles, "I wouldn't wonder if you made one out of

'BIZZ AND HER FOES.'"

CEREMONIES OF THE GREEK CHURCH.

IN the most ancient part of the Kremlin at Moscow is an old sacristy, and there is kept the original vessel which brought the *chrism*, or anointing oil, from Constantinople, and which, by the orthodox of the Greek Church, was believed to contain a portion of the precious ointment used by Mary Magdalene. This vessel is a copper bottle or vase, silvered over and ornamented with mother-of-pearl.

In the same sacristy there are two large silver boilers and a third of larger dimensions, which were a present from the Empress Catherine; in these there is, during Lent every year, made, or consecrated, a quantity of oil as a chrism: this is done as a ceremony of great solemnity by the Metropolitan of Moscow, assisted by his clergy. The chrism is compounded not of oil alone, but of about thirty different ingredients—oil, and essential oils, white wine, gums, balsams, and spices,—and to the whole are added a few drops from the "alabaster," which is the title of the bottle of chrism from Constantinople. When the whole is duly prepared, and consecrated by the ancient forms and ceremonies, a few drops from the mass are again put into the ancient "alabaster," and by this practice, sixteen silver bottles, similar to the ancient one, are filled, and the original stock of precious ointment is duly preserved. This sacred oil is called "Mir," and these bottles are sent to the different bishops of Russia. It is used for the following ceremonies: the Emperor at his coronation is anointed with it; it is used at the consecration of all churches of the orthodox communion, and at the baptism of every orthodox Russian subject.

The ceremony of baptism, like all the ceremonies of the Greek Church, is very beautiful, and ought to impress those who go through its performance with a sense of its solemnity. The godfathers and godmothers proceed with the child to the church, and are met at the door by the priest: he gives the child the sign of the cross on the forehead, and pronounces the benediction, saying, "The Lord preserve thy going out, and thy coming in!" The sponsors present four lighted candles, which the priest puts upon the font; he then consecrates the water, by dipping the cross into it; he then, after the use of incense, leads the sponsors, with candles in their hands, in a procession round the font; having circumambulated the font three times, the sponsors give the name of the child in writing; the priest attaches the name to one of the images of the church, and laying it on the breast of the child, asks "whether the child believes in God the Father, Son, and Holy Ghost?" The answer "yes," is given three times, and the sponsors then turn their backs to the font, as a sign of their aversion to the next three questions, which are, "Whether the child renounces the devil? Whether he renounces his angels? Whether he renounces his works?" They have to answer to each question, "I renounce," and spit three times upon the ground, in token of malediction. On turning again to the font, they are asked by the priest "Whether they promise to bring up the child in the true Greek religion?"

A satisfactory reply to this being given, the priest puts his hand upon the child, and blows three times, saying, "Get out of the child, thou unclean spirit, and make way for the Holy Ghost." After this he cuts off four small locks of hair from four points, forming a cross on the head; these locks he wraps up in wax, and throws into the font; the priest takes the child, naked, and plunges it into the water three times, uttering the words of the Sacrament, "I baptize thee in the name of the Father, and of the Son, and of the Holy Ghost." Complete immersion is the practice of the Greek Church, so a pretty large font is necessary.

The ceremony of baptism contains two sacraments: the second is called the "Baptismal Unction." This is done with the sacred oil, which is prepared in the sacristy of the Kremlin, and which is believed to contain a portion—however minute—of the "costly pound of ointment." The child receives the Holy Ghost through the virtue of this baptismal unction. As this ceremony is always performed at baptism, it renders confirmation unnecessary in the Greek Church. The priest anoints the mouth, eyes, ears, hands, and feet, as well as the back and breast. The mouth is anointed, so that it may only speak that which should be spoken by a child of God; the eyes, that they may only see good; the ears, that nothing may pass through them to the mind but what is pure; the hands, that they may do no wrong; and the feet, that they may walk in the way of life. He then puts a grain of salt in the child's mouth, and in token of the hopes of purity, he dresses it with a clean shirt, and repeats the words, "Thou art as clean, and as clear from original sin, as thy shirt." A small cross of lead, silver, or gold—according to the means of the parents—is put round the infant's neck: this is carefully preserved, because the rites of Christian burial are denied to any who die without them. Sponsors are considered so nearly related, that they are not permitted to marry.

Marriage is also a very elaborate ceremony, and its celebration occupies a considerable length of time. Some details of the late marriage of the Czarewitch will convey a good idea of forms gone through, for they are exactly the same as those of the poorest individuals.

The Metropolitan and principal clergy of St. Petersburg came to the door of the chapel, there to receive the marriage procession. One priest held a candlestick with three tapers, which was so arranged that they produced only one flame; this was in token of the Three in One; another held a basin of holy water, and a bay-leaf to sprinkle it with; and the Metropolitan held in his hand a golden cross about ten or twelve inches in length. The bride and bridegroom were sprinkled with the holy water; they were then blessed by the Metropolitan, and each kissed the cross in his hand.

As a woman cannot enter within the enclosed place of the altar, a temporary altar is put up on the outside of the screen, for the ceremony of marriage to be performed. This is nothing but a small reading-desk, covered with cloth embroidered with gold crosses, and a copy of the four Gospels is placed upon it. The bride and bridegroom took up a position in front of this, with lighted tapers in their hands, and the officiating priest asked, "Alexander Alexandrowitch, hast thou a good and unrestrained will, and firm intention to take unto thee to wife this woman, Marie Feodorowna, whom thou seest here before thee?" The Czarewitch replied, "I have, most reverend sir." The priest again asked, "Hast thou not promised any other woman?" And the answer was, "I have not promised another." The same questions were put to the bride, after which came the benediction; then the deacon said the Ectinia, into which were introduced the following words for the occasion: "For the servants in God, the Czarewitch, Grand Duke Hereditary orthodox, Alexander Alexandrowitch, and the Grand Duchess orthodox, Marie Feodorowna, now joined together in holy wedlock, and for their salvation." A number of prayers were then repeated, and two crowns were brought on a tray; the priest took one, and, making the sign of the cross with it over the head of the bridegroom, said, "The servant of God, Alexander Alexandrowitch, is crowned for the handmaid of God, Marie Feodorowna, in the name of the Father, and of the Son, and of the Holy Ghost." The Czarewitch kissed the crown, and one of the Garçons des Noces held it over the head of the bridegroom during the remainder of the ceremony. A similar service was performed with the other crown and the bride, and it was also held over her head till the end. A benediction was then given—"O Lord our God! crown them in like manner with glory and honour." The crowns in this rite have nothing to do with the rank of the couple; crowns are used at every marriage ceremony. There was a slight difference in the two crowns, which may be worth noticing; that held over the bridegroom had on it the figure of Christ, while that over the bride had a figure of the Virgin. The "Prokimenon" now follows,—"Thou hast put crowns of precious stones upon their heads; they asked life of Thee, and Thou gavest them a long life; for Thou shalt give them the blessing of eternal life; Thou shalt make them glad with the joy of thy countenance." Then comes the "Epistle of the Office," Eph. v. 20–33. The priest then reads the Gospel; that chosen was the second chapter of St. John's gospel, which relates the marriage in Cana, ending with the 11th verse. An anthem, "Glory be to Thee, O Lord, Glory be to Thee," is sung before and after the Gospel. The "Common Cup," containing wine, is now given by the priest to the bride and bridegroom, who each drink out of it three times in remembrance of the marriage in Cana.* Up to this point of the ceremony the contract may be broken off, but now comes the most important part of the rite, which makes the marriage indissoluble, for the Greek Church never permits of divorce. The priest covers his right hand with his robe, and on it the bride and bridegroom place their right

* In the Jewish form of marriage a cup of wine is drunk by the bride and bridegroom.

hands, and with the crowns still over their heads, the priest slowly leads them three times round the altar. This part of the ceremony is understood to typify that the pair are thus to walk together through life, and the Divine Presence along with them, which is here typified by the priest, as the representative of God; the mystical three times is symbolical of the Holy Trinity. While this is doing, the choir are singing, "Exalt, O Isaiah, for a virgin has conceived and brought forth a son, Emmanuel, God and man; the East is His name; Him do we magnify, and call the Virgin blessed." The two are now bound as one in the ties of holy matrimony. The priest takes off the bridegroom's crown, saying, "Be thou exalted, O bridegroom, like unto Abraham, and blessed like unto Isaac, and multiplied like unto Jacob. Walk in peace, and do all according to the commandments of God." Taking the bride's crown he says, "And thou, O bride, be thou exalted like unto Sarah, and rejoice like unto Rebecca, and multiply like unto Rachel; rejoice with thy husband, and keep the ways of the law; and the blessing of God be with thee." A couple of prayers then follow, after which the couple kiss each other three times, and the ceremony may be said to be ended.

In the Greek Church some of the clergy are married and some are monks, but a monk cannot celebrate the ceremony of marriage; it is only a married priest who can do so. For this reason the Metropolitan of St. Petersburg, who is a monk, could not officiate.

Dr. Clarke, in his "Travels," gives such a graphic account of the funeral of Prince Galitzin, that it may be taken as a fair description of the burial ceremonies.

"On the 28th of May, we again saw Plato* in great pomp, at the burial of Prince Galitzin, in Moscow. This ceremony was performed in a small church near the Mareschal Bridge. The body was laid in a superb crimson coffin, richly embossed with silver, and placed beneath the dome of the church. Upon a throne, raised at the head of the coffin, stood the Archbishop, who read the service. On each side were ranged the inferior clergy, clothed, as usual, in the most costly robes, bearing in their hands wax tapers and burning incense. This ceremony began at ten in the morning. Having obtained admission to the church, we placed ourselves among the spectators, immediately behind his Eminence. The chanting had a solemn and sublime effect; it seemed as if choristers were placed in the upper part of the dome, and this perhaps was really the case. The words uttered were only a repetition of 'Lord, have mercy upon us!' or, in Russian, 'Ghospodi pomilui!' When the Archbishop turned to give his benediction to all the people, he observed us, and added, in Latin, 'Pax vobiscum!' to the astonishment of the Russians; who, not comprehending the new words introduced into the service, muttered among themselves. Incense was then offered to the pictures and to the people; and, this ceremony ended, the Archbishop read aloud a declaration, purporting that the deceased had died in the true faith, that he had repented of his errors, and that his sins were absolved. Then turning to us, as the paper was placed in the coffin, he said again in Latin, 'This is what all you foreigners call *the passport;* and you relate, in your books of travels, that we believe no soul can go to heaven without it. Now, I wish you to understand what it really is; and to explain to your countrymen, upon my authority, that it is nothing more than a declaration or certificate concerning the death of the deceased.' Then laughing, he added, 'I suppose you commit all this to paper; and some future day, perhaps, I shall see an engraving of this ceremony, with an old archbishop giving a dead man his passport to St. Peter.'

"The lid of the coffin being now removed, the body of the prince was exposed to view; and all the relatives, the servants, the slaves, and the other attendants, began the *Ululation*, according to the custom of the country. Each person, walking round the corpse, made prostration before it, and kissed the lips of the deceased. The venerable figure of an old slave presented a most affecting spectacle. He threw himself flat upon the pavement, with a desperate degree of violence, and, being quite stunned by the blow, remained a few seconds insensible; afterwards, his loud lamentations were heard, and we saw him tearing off and scattering his white hairs. He had, according to the custom in Russia, received his liberty upon the death of the Prince, but choosing rather to consign himself for the remainder of his days to a convent, he retired for ever from the world, saying, 'Since his dear old master was dead, there was no one living who cared for him.'

"A plate was handed about, containing boiled rice and raisins—a ceremony we are unable to explain. The face of the deceased was then covered with linen, and the Archbishop poured consecrated oil, and threw a white powder, probably lime, several times upon it, pronouncing some words in the Russian language; these he afterwards repeated aloud in Latin, 'Dust thou art; and unto dust thou art returned.' The lid of the coffin was then replaced, and after a requiem, 'Sweet as from blest voices,' a procession began from the church to a convent in the vicinity of the city, where the body was to be interred. There was nothing solemn in this part of the ceremony. It began by the slaves of the deceased on foot, all of whom were in mourning. After the slaves followed the priests, bearing tapers; then was borne the body, on a common drosky, the whip of the driver being bound with crape; afterwards proceeded a line of carriages, of the miserable order before described. But, instead of the slow movement usually characteristic of funeral processions, the priest and the people ran as fast as they could, and the body was jolted along in a very indecorous manner. Far behind the last rumbling vehicle were seen persons running, quite out of breath, and unable to keep up with their companions."—*Clarke's Travels*, vol. i.,c. ix.

In the present day, funeral processions are managed with more decorum; a special vehicle is used for the coffin; a decorated pall is thrown over it; and every person in the street takes off his hat to it as it passes.

Such are the three great events of life—birth, marriage, and death—and the ceremonies of the Greek Church connected with them.

The illustration represents the ancient vase which brought the "chrism" from Constantinople, and the figure is that of Philarete, the Metropolitan of Moscow. There are four Metropolitans in Russia, and the oldest is, by right of seniority, the spiritual head of the Church. Philarete at present enjoys that honour; he is 83 years of age; although weak in body from age, yet he is in the perfect use of his mind, and has a very bright, genial expression of face. The Prince of Wales, during his late sojourn at Moscow, visited this venerable prelate, and the dress shown in the illustration was that worn on the occasion.

* Plato was the name of the Metropolitan of Moscow at that time, in 1800.

A GOSSIP ABOUT AMBER.

By B. Lambert.

AMBER, one of the most beautiful fossil productions of a bygone age, possesses, apart from its intrinsic value as an art material, the greatest possible interest to the student in the sciences of Entomology, Botany, and Geology. How was it formed, and whence does it come? are questions which were debated in days long anterior to the Christian era. Its translucent aspect and wealth of glowing colour have been utilized by the bards of every clime in the construction of their most charming imagery, whilst on its electric characteristic there has been erected a goodly superstructure of all-pervading superstition, the trace of which may be found in the folk-lore of the Western nations.

The geographical distribution of amber would appear to be tolerably extensive, but the largest quantity is found on the southern shore of the Baltic, between Memel and Königsberg, where it is cast up by the action of the ground swell after northerly gales. Under similar circumstances it is found on the coast of the Adriatic, on the Sicilian seaboard, and on the beach in our own counties of Norfolk and Suffolk. Mining for amber in beds of brown lignite is carried on in Prussia with varying success, and good pieces, both as regards size and quality, are occasionally found in excavations all over Europe, the British islands not excepted. Still, amber continues to be, *par excellence*, the gem of the sea, by which it is yielded up in sparing manner, and then only when in tempestuous mood.

The origin of amber has been for ages a fertile subject of discussion; and theories of the wildest character—but on that account not the less beautiful as imaginative conceptions—have been started to account for the singularity of the phenomena by which it is surrounded. There can be no doubt, however, that amber is the indurated resin of extinct Coniferæ, and is moreover the product of different species of coniferous trees. Judging from the variety of objects found impacted in amber, the inference is clear that the forests of northern Europe were, at the epoch of its production, of a very different character to those of the present day. A tropical sun must have poured a flood of light and heat on luxuriant vegetation instinct with life, extending over the present bed of the ice-bound Baltic; and no better sermon in fossils can be read than the history of that epoch, as exhibited in the plants and insects imbedded in the clear juice which flowed from the stems of its forest trees.

Amber is found in masses, irregularly shaped and, generally speaking, of a small size; the colour varies from exceedingly pale straw to deep orange. In clearness it is obtained of all degrees, from transparency to opacity. It is exceedingly light, having only a specific gravity of 1·07; has a conchoidal fracture; is brittle, but can be easily cut with a sharp knife; and becomes negatively electrical by friction. Its chemical formula is $C_{40}\,H_{32}\,O_4$. By distillation it yields succinic acid, that being its leading characteristic. It fuses in air at 550° Fahr., and does not drop, like copal under similar circumstances, but burns with a yellow flame, leaving a shiny bituminous mass, which is used in the arts as a basis for varnishes.

Amber was held in high estimation in periods of the most remote antiquity. Its electrical property was first commented upon by Thales of Miletus, who flourished 600 years B.C. The substance was on that account called by the Greeks *electron*, a name which was, however, equally applied to an amalgam composed of gold and silver; and it is from *electron* that our word *electricity* is derived.

Nearly all the Greek and Latin authors have something to say about electron. By some it was supposed to be produced by the rays of the setting sun on the surface of the earth, resulting in an "unctuous sweat," which was washed off by the sea and further elaborated in its depths. By others, that a piece of water, called Lake Electron, was situated in the gardens of the Hesperides, and that amber fell into the water from the poplar trees by which its banks were lined; and not a few believed, with Sophocles, that amber was the tears shed for Meleager by the birds called Meleagrides, in some far eastern country. The prevailing idea, however, in the first century of the Christian era, was, that amber was a vegetable product, distilled from trees at one time indigenous to the places where the substance was found,—an idea which is elegantly elaborated by Ovid in his notice of the death of Phaeton. The story is, that the sisters of Phaeton being overcome with sorrow for his untimely death, wandered over the surface of the earth, loudly lamenting their bereavement. Having reached the banks of the Po, and one of them desiring to recline, the discovery was made that they were gradually being transformed into trees; and as the bark finally closed on their heads, tears burst forth—hardened in the sun—dropped into the river, and were by it borne to the Latian matrons; so that, according to Ovid, amber was the tears of the sisters of Phaeton.

In the Old Testament Scriptures amber is mentioned in the book of Ezekiel; but the greater number of biblical scholars agree that the word does not mean amber proper, but a metal similar to, if not identical with, that named by the Greeks electron. This want of clearness in nomenclature has been productive of much confusion, and appears moreover to have been very prevalent; as, for example, in the Hindu mythology, where amber and ambergris are made interchangeable terms. It is extremely difficult to judge whether the ancient Hindus had three different substances which they denominated amber, or only two. Inclining to the opinion that there were

three categories, they would be "Golden" amber, "Water" amber, and "Black" amber. There is very little doubt that by the first is meant fossil or true amber, and by the second and third ambergris. Frequent reference is made to the exquiste perfume of amber; but seeing that true amber has little or no perfume, in comparison with ambergris, the latter is doubtless indicated. Moreover, the described colours of the last two sorts,—viz. grey and black, point to ambergris, that substance being generally black and soft when expelled from or found in the sperm whale, and gradually acquiring lightness of colour, hardness, and pungency, as it is tossed about on the surface of the sea. The Hindus knew that both amber and ambergris were waifs of the sea; and their assumption that black amber was the excrementitious matter of some large fish was singularly near the truth.

As far back as the beginning of the Christian era, not only had definite ideas, consistent with reason, been formed as to the origin of amber, but an active trade in the article had arisen, in order to supply the Italian market. Pliny says, "There can be no doubt that amber is a product of the islands of the Northern Ocean, and that it is the substance by the Germans called Glæsum." After indicating more particularly the locality, he tells us that amber is produced from a marrow discharged by trees belonging to the Pine genus, like gum from the cherry, and resin from the ordinary pine; that it is a liquid at first, gradually hardened by atmospheric action; and he adduces in proof that it is the juice of the pine, the allegation that it emits a pine-like smell when rubbed, and that it burns with the odour and appearance of pine wood. The precise locality of the northern amber country was about the same period laid down by Tacitus, who, in his description of the tribes of the Æstii, says they are the only people that gather amber, which by them is called Glessum, and that it long lay disregarded among the débris thrown up by the sea, until Roman luxury created a demand for the neglected substance. It is interesting to note that the name of the tribes described by Tacitus as amber-collectors, is still preserved in that of the palatinate of Esthonia, in the kingdom of Prussia. During the reign of the emperor Nero, the demand for amber as a material for articles of personal adornment must have been very great. The Roman ladies, like their fair sisters of later periods, were not insensible to the delicate beauty of amber ornaments, but, on the contrary, held them in the highest possible esteem; and some idea may be formed of the extent to which ostentatious display was carried by the members of the Imperial court, from the fact that the Emperor despatched a messenger to the amber country, in order to procure a large supply of the article, and with such success that the nets and other paraphernalia of the gladiatorial arena were studded with pieces of the much-coveted material. The journey from the Tiber to the Baltic, by way of the Adriatic and the Danube, must have been an undertaking of serious magnitude; and the fact that such an expedition was ordered, in all probability to gratify the whim of a reigning beauty, and certainly to procure an article of the merest luxury, furnishes a fair example of Nero's reckless munificence.

It would be too much to expect from uninstructed man, that such a peculiar product as amber should not have been invested with supernatural attributes. Its property of attracting light substances after friction was so suggestive of life, as to lead observers to the most astonishing conclusions. That a fragment of inert matter should have the power of attracting, and not only so, but of holding another fragment of matter equally inert, was so obviously opposed to natural law as to leave no doubt in the mind of any rational being that some intelligence of another mould, some fairy or some wayward djinn, had evinced consummate taste in the selection of a material for its dwelling. Hence, in the fairy literature of Persia, one of the abodes of the Peris is called Amber-ābād; hence the amber moon of the Hindu, and hence too the various superstitions current among the northern nations connecting amber with fairy pranks and witches' spell. Among the tribes inhabiting the southern shore of the Baltic, this belief was naturally prevalent, as the mysterious circumstances attaching to the appearance of amber were kept continually before them, and so, without possessing any very definite notion on the subject, the substance was associated in their minds with the manifestations of witchcraft, in which they firmly believed. This view of the matter is fully borne out by the plot of a story entitled "The Amber Witch," written by the pastor of a district in Pomerania, and published in the year 1843. The time is the period of the Thirty Years war, and although there are a good many actors in the drama, including a veritable witch, the whole of the complications of the plot—complications which nearly had a disastrous termination for the heroine—arise from the circumstance of the poor pastor and his daughter having discovered a vein of amber, from the secret working of which they derive a considerable, and, in the opinion of their neighbours, a most mysterious revenue. The daughter, in the stillness of the night, is seen by malevolent eyes in quest of the hidden treasure, and, seizing the incident, the *real* witch succeeds in fastening the authorship of her evil deeds on the pastor's daughter, who is therefore called the Amber Witch. The story is well told, and the name will not be easily forgotten, as it is the title of an opera by the late Mr. Vincent Wallace, by whom the leading incidents of the tale have been wedded to most charming music.

If the superstitions connected with amber were localized in the Baltic provinces, the natural expectations of the investigator would be satisfied; but the interest with which the subject is clothed is greatly increased when it is found that the centre of the belief in the supernatural efficacy of amber, as far as ancient records and modern relics enable us to judge, is to be found in Scotland, the inhabitants of which country seem to have had the most unlimited faith in what may be fairly denominated

amber-power against witches, against fairies, against the too critical gaze of man, and even against the grand heritage of the human family—Death. The Scottish for amber is "lammer." Lammer beads are held at the present day by the Scottish peasantry in peculiar veneration. When strung on red thread, they were supposed to be a charm to repel witchery; worn by children, they were considered a certain preventive of dangerous illness, and were deemed particularly potent against the spells of witches and evil machinations generally. A set of lammer beads was at one time an ordinary present from a mother to her daughter on the night of her marriage; so that, being worn about the neck, her husband might the more be charmed with her beauty; but the most extraordinary form which the belief in amber-power seems to have taken in the minds of the Scottish people, was that of attributing immortality as the result of its internal administration. Faint traces of this singular belief may be discovered in the records of ancient times, but nowhere is the error so distinctly and particularly set forth as in the following lines, collated from an old number of the "Scots Magazine," respecting the virtues of lammer-wine :—

Drink ae coup o' the lammer-wine,
An' the tear is nae mair in your e'e.
An' drink twae coups o' the lammer-wine,
Nae dule nor pine ye'll dree.
An' drink three coups o' the lammer-wine,
Your mortal life's awa.
An' drink four coups o' the lammer-wine,
Ye'll turn a fairy sma'.
An' drink five coups o' the lammer-wine,
O' joys ye've rowth an' wale.
An' drink sax coups o' the lammer-wine,
Ye'll ring ower hill an' dale.
An' drink seven coups o' the lammer-wine,
Ye may dance on the milky way.
An' drink aught coups o' the lammer-wine,
Ye may ride on the fire-flaught blae.
An' drink nine coups o' the lammer-wine,
Your endday ye'll ne'er see;
An' the nicht is gane, an' the day has come
Will never set to thee.

And the idea is further devoloped in the following verse from a poem called "The Marmaiden of Clyde." The mermaid, while performing her toilet, relates in song the story of her noble parentage; of her having been decoyed to the river-side by a deer of which she was in chase; of her being there benighted and seized by a "stalwart Gowe," who plunged with her into the flood, and gave directions for her transformation into a mermaid :—

An' tak my bride, my bonnie bonnie bride,
To the dwerch the wicht can say,
An' wash awa the changefu' life
That lives in upper day;
And dip her first in the Norroway sea,
She's mine for evermare;
And dip her syne in the lammer-wine,
Alike then sea and air.

It requires some effort of imagination to conceive a period when any considerable portion of the inhabitants of Scotland could believe in an elixir of immortality. That they did so, however, there is no room to doubt; and the strength of their belief in all the varieties of amber-power is attested by the vitality which characterizes the remains thereof in the present year of grace.

Up to a comparatively recent period, amber was employed as a remedial agent in the practice of medicine. The elder Pliny extolled its virtues, and although it has now no place in the Pharmacopœias of this country, suffering humanity has not long enjoyed immunity from its empirical exhibition. Formerly it was in great favour as a stimulant, being the principal constituent of *eau de luce*. This celebrated essence was a volatile preparation of oil of amber with ammonia; evaporated to thickness, it was used for removing stains from cloth, and when diluted it was applied as a stimulant in fainting-fits. As a medicine, amber was used in a variety of forms, ranging from unsophisticated powder to the most elaborate products of distillation. In Salmon's "Pharmacopœia Londinensis," published in 1678, amber, whether "white or yellow," is described as "hot and dry, binding, cephalick, cardiack, hysterick, and analeptick," and we are told that it stops catarrhs, cures epilepsies, apoplexies, lethargies, and megrims, scurvy, green sickness, jaundice, and ulcers; that hysterical fits, palsy, convulsions, and falling sickness yield to its virtues, and that it is eminent against measles, small-pox, spotted-fever, plague, pleurisy, palpitation of the heart, and other malign diseases; in fact, amber would appear to have been a general specific in all the ills that flesh is heir to. It is possible that our self-complacency may be disturbed by the reflection that no further back than three generations, such an exposé of medical practice should have been received with favour by the profession; and if anything could compensate us for not having being born in the "good old times," it would be a perusal of the old dispensatories, the pages of which bristle with atrocious compounds, grimly intended as so many aids to stricken humanity in the fight which it is continually waging with disease. Amber was not only used as a medicine, and as a volatile essence having some similarity to our *Eau de Cologne*, but it was also worn as an amulet or charm against particular diseases. There were many ailments in the prevention of which it was deemed efficacious; particularly, the plague, the ravages of which were greatly dreaded. As a charm against this scourge, amber was worn by all classes of people, from the meaner sort up to the highest dignitaries of the Church. It would appear that the mere wearing of the charm was not sufficient to preserve an individual from the fatal malady, but that some preliminary ceremonies were essential to that end. The piece of amber employed should be "translucid," and previous to being hung about the neck should be "rubbed on the jugular artery, on the hand wrists, near the instep, and on the throne of the heart;" after all which, it was supposed to be a certain preventive of the plague. Whether it was so in reality, is matter of opinion; but if the feeling of immunity from danger lent greater nerve and boldness to those who, themselves untouched, ministered to the necessities of the afflicted, the

belief in amber-power has not been without its uses.

As already observed, the origin of amber has at all times been a bone of contention among the learned. The substance has been examined and re-examined under every conceivable light. Its chemical constitution has been ascertained, its mechanical structure and optical properties observed, and the organic remains preserved in its embrace have been closely scrutinized, with the sole result that the balance of testimony is in favour of its being an exuded vegetable juice, and that its recognition is surrounded with difficulties. Baron Liebig is of opinion, or rather he thinks it probable, "that amber is a product of the decay of wax, or of some other substance allied to the fats or fixed oils," basing his assertion on the presence of succinic acid, that being one of the products of the oxidation of stearic and margaric acids; and Berzelius asserts that there are two resins in the constitution of amber. Sir David Brewster says that his observations on the optical properties and mechanical condition of amber, by means of polarized light, "appear to establish beyond a doubt, that amber is an indurated vegetable juice, and that the traces of a regular structure indicated by its action upon polarized light are not the effect of the ordinary laws of crystallization, by which mellite has been formed, but are produced by the same causes which influence the mechanical condition of gum-arabic, and other gums which are known to be formed by the successive deposition and induration of vegetable fluids." The evidence on which it is assumed that amber is a vegetable resin, analogous in its formation to gum-arabic, &c., is cumulative, as, apart from the wood, leaves, flowers, and fruit found enclosed in amber, and recognized as having belonged to coniferous trees now extinct, the substance has been found impacted in the wood which has been placed by microscopists as a Pinus. The forms of the lumps, now as tears, then as stalactites, and generally in pieces of irregular mould, as if the juice had been run into bark-crevices, exactly tally with our experience of exuded resins. The structure of the cylindrical specimens tells of the successive flowings of a limpid juice over a partially indurated surface, and the perfect state in which the delicate wing-tracery of insects is preserved, seems to point to their having been enveloped in a cold limpid fluid, and not in a hot viscous mass such as amber would have been if the product of vegetable remains acted upon by terrene heat. There must have been several descriptions of amber trees, to which the differences which have been observed in density and colour are referable. The colour of Sicilian amber is generally deeper than that from the Baltic, and it is stated that in Germany an experienced amber-worker can discriminate between pieces found on different parts of the coast. Nor is amber invariably found in a hard state, as there is an instance on record of a gentleman having received from a friend located on the Baltic coast, a piece so soft as to take an impression of his seal; and the same individual speaks of another piece soft on one side and hard on the other. The principal argument in support of the theory that amber is an organic distillate from vegetable remains, resulting from subterranean or solar heat, is the largeness of many pieces, which, beyond all question, remain in their original condition; the inference being that their size precludes their acceptation as an exuded resin from a living tree. It being, however, admitted that our knowledge of the amber trees is of the most incomplete character, and there being nothing improbable in the supposition that the forests of that remote epoch were tenanted by gigantic forms, the argument is more specious than real. On the contrary, what lends most weight to the pitch theory, is the peculiar appearance which some specimens present, as if they had at one time been in a state of fluidity, during which the heavier particles had gravitated, leaving the upper section perfectly clear. Thus, one section of a lump may consist of fatty or mottled amber, almost or entirely opaque, while the other section may be composed of the purest material, as regards colour and transparency; the two sections have an appearance of perfect homogeneity, and the deposition of the fatty part seems to be marked by wave-lines, as if the mass had been subjected to strong air-currents when in a fluid state. Appearances such as those just described are obviously antagonistic to the theory of gradual exudation, and can only be reconciled with it on the hypothesis that the flow of clear resin had been intercepted by some foreign body, such as a spider's web, and that the fatty or mottled appearance is due to the incorporation of such foreign body with the clear vegetable juice. In many specimens possessing this duplex character, there is evidence of structure in the fatty part, a circumstance which invests the web theory with some amount of probability.

The observation of succinic or amber insects has been diligently attended to by many eminent entomologists, and several interesting collections have been made by those curious in such matters. The beautiful state of preservation in which some specimens are found, extending even to the retention of the natural colours, has enlisted the curiosity of thousands of persons totally unconnected with the pursuit of science, persons who could give no better reason for the indefatigable manner in which they hunt after rare examples, than those contained in Pope's well-known lines:—

> Pretty! in amber to observe the forms
> Of hairs, or straws, or dirt, or grub, or worms!
> The things we know are neither rich nor rare,
> But wonder how the d—l they got there.

Concerning how they got there something has already been said, and as far as the rarity of succinic insects is concerned, Pope was unquestionably wrong, as they open to us a new chapter in old-world history. The beauty of the envelope presents to us, in all the vividness of life, the insects, the beetles, and the lizards which swarmed in the primeval woods; whilst the completeness of the collection renders their acquisition a matter of the greatest moment to the comparative entomologist;

to him they are both rich and rare, and his appreciation of them could not be better expressed than in the following metrical version of one of Martial's epigrams:—

> A drop of water from the weeping plant
> Fell unexpected and embalm'd an ant;
> The little insect we so much contemn
> Is, from a worthless ant, become a gem.

The whole of the forms, both of insects and animals found in amber are recognized as forest denizens, and it has been remarked that they bear a sufficiently close resemblance to existing species to enable a satisfactory inference to be drawn respecting their habit. Many strange objects impacted in amber have been at various times offered to collectors; but close scrutiny has generally revealed a well-executed fraud. Not in this category, but still so strange as to excite the gravest doubt, is a piece of amber containing a fish, in the Hope collection at South Kensington. The material is formed into the handle of a seal, and the tail of the fish is concealed by the ruggedness and opacity of the amber where it enters the metal mounting. The singularity of this specimen consists, firstly, in the fish; secondly, in the marked difference between that section of the amber enclosing the tail and the clearness of the remainder in which the body is exhibited; and lastly, in the evenness of the set of the object. It is very desirable, in the interest of science, that this piece of amber should be subjected to microscopic examination divested of its metal mounting; and until then, all that can be said about it is—"Curious if true."

The uses to which amber is put are not very numerous. As a material for art carving, nothing can be more beautiful. The principal market is Constantinople, where it is made into pipe mouth-pieces, and articles of female ornament, such as beads. The Turks and Armenians are acknowledged to be first-rate judges of amber, and a connoisseur could enjoy no greater treat than a stroll through the Bazaar at Stamboul, where the amber-workers are located. For a pair of chibouk mouth-pieces of moderate dimensions, but well matched as to colour, sums varying from £20 to £50 will be demanded; whilst for a chaplet of beads, three shillings the drachm would not be considered exorbitant, although that amount might be fractionally reduced, should the purchaser have the nerve and patience to devote a day or two to the conduct of the bargain, and be able to withstand the flattering allusions to his imperial descent with which Ali or Hassan will plentifully bespatter him. There are many very fine examples of carving in amber to be found in the Royal collections of Europe. In the loan collection at South Kensington may be seen an octagonal casket, the property of her Majesty the Queen, the oblong plates carved with figures emblematic of the cardinal virtues; and in close proximity there is a larger casket of architectural design, chiefly remarkable for the variety of colours in the amber used in its construction. It is ornamented with statuettes, twisted pillars, and quaint panelling, the workmanship being Flemish of the early part of the 17th century. A very elegant piece of modern carving in amber was shown at the International Exhibition of 1862, in the shape of a vine branch, with leaves and fruit; but such works of art must always be scarce, owing to the difficulty of procuring lumps of amber of sufficent size and purity. The only purposes to which amber is applied in the useful arts is in the manufacture of varnishes for carriage-builders and photographers. That used for the panels of carriages is expensive, and is a long time in drying; but, on the other hand, it is the hardest and most invulnerable of any known varnish.

Any gossip on amber would be incomplete were not allusion made to the preference which in all ages has been given to amber colour by the ladies. Sometimes it is in hair, and at others in dress; but whatever form the fancy might assume, amber has always been to the daughters of Eve "a thing of beauty," and its golden straw-colour a "joy for ever." It is amusing to read, by the light of modern experience, the strictures of Pliny on the amber extravagances of his day, as, not only is the expensive luxury denounced, but he cudgels Domitius Nero soundly for bestowing the name upon the golden tresses of his wife, sarcastically remarking, that "as fine names are never wanting for bodily defects, a third tint has been introduced of late among our ladies, under the name of amber-colour." Verily, fashion repeats itself, as the golden tresses which Nero so much admired, and which Pliny so sedulously vilified, are, as far as colour is concerned, precisely those which linger in the memory of the modern Benedict as being the crowning glory of his guardian Angel.

THE AFRICAN ELEPHANT.

By CENTURION.

THE African variety of the Elephant has received, in comparison with his Asiatic congeners, but little notice from modern naturalists, despite the numerous points of interest which his history and peculiarities offer to the observer. To glance at a few of the historical details which the study of the animal presents, and to collect such observations of its habits as are *really trustworthy*, is the writer's aim in penning the following brief account.

The African Elephant, the *Elephas Africanus* of Cuvier, which, with the exception of certain regions of limited extent, like Egypt, in which it is not

found, is spread over the whole of that continent, varies much in size, and to a certain degree in hue, in different localities. In South Africa, where these animals have been most attentively observed, they ranged, in former times, over vast tracts of country, from the belt of forest land which fringes the coast line of Natal, to within a few miles of Cape Town; but of late, since the population has become more widely spread, and since the use of fire-arms has increased, the Elephant, ever the first to retreat before the advent of man, has here nearly disappeared. Nor is the decrease confined to the limits of the colony; for far across the border the numbers are steadily diminishing, partly from the animals retiring to less-frequented regions in the interior, partly, no doubt, owing to the reckless destruction of females and young, as well as of males, at all seasons alike.

The following average dimensions of a South African Elephant, and the accompanying description of its appearance, may be quoted as a good example of the African variety in general. The height of the males may be taken at 12 feet at the shoulder, that of the females about 8 or 9 feet, and the average length of the animal from 18 to 20 feet. The head is more round, and the forehead more convex, than in the Asiatic variety, and the huge ears, often 6 feet in length, overlap at the back of the head, and reach far down the legs. The difference in physiognomy between the two varieties, though difficult to define, is very marked and cannot fail to attract the notice of any one familiar with the Indian type. Unlike the Asiatic animal, in which the male only is provided with tusks, both males and females in Africa possess those appendages, which they use extensively in ploughing up the ground in search of roots and bulbs. These tusks are either nearly straight or curved *upwards*, the latter being the most usual form. The toes are five on each foot. The teeth present certain marked differences from the Asiatic variety, and in some degree resemble those of the American fossil Elephant, or Mastodon. The skin is a dark iron-grey, rough and destitute of hair. As we approach the equator (at least in the vicinity of the coast), although food is more plentiful, the Elephants appear to *decrease* in size, and to carry less formidable tusks. Observers, on both the east and west coast, speak of 8 to 9 feet as the average height of a full-grown bull Elephant in Equatorial Africa, and state also that the tusks weigh from 50 to 60 lb. In South Africa, 100 lb. is not an unusual weight, and one in possession of the late Mr. Gordon Cumming weighed 173 lb. Near the equator, too, the Elephants are often of a darker hue; white Elephants (which are in fact Albinoes) have never, we believe, been met with in South Africa, although instances have been observed further north, on the borders of Abyssinia. Dr. Barth, in his "Travels in North Africa," speaks of having met with black, grey, and yellow varieties.

The habits of the African Elephants may be thus briefly sketched.

Near the Cape Colony, they are found in small herds, under the leadership of one or more bulls; but as we advance further into less-frequented regions, these herds increase greatly in numbers. The young remain unusually long in company with their dams. During the breeding season terrific combats often take place between the males; * the old or vanquished bulls roam about alone or in pairs. These are the "Schelm" Elephants of the Dutch hunters, and, like the "Rogues" in Ceylon, are the most dangerous to encounter. Elephants are particular in frequenting the freshest and most verdant parts of the forest, their favourite spots being often in secluded situations, far away from water. † In these cases they leave their mid-day haunts at sun-down, and commence their march to the water, which, perhaps, is 12 to 20 miles distant; arriving here an hour or two before midnight, they quench their thirst and cool their bodies by spouting over them huge volumes of water, and then assume the path to their forest solitudes once more. The bulls frequently lie down on their sides at night and sleep, the place usually selected being the side of one of those huge ant-hills, here so plentiful. The deep impression of the under tusk may be often found in these situations; but the females, and even the males, in exposed positions usually sleep standing, resting themselves against a bank or the trunk of a tree.

Their food consists of branches, leaves, roots of trees, and bulbous plants. The power they exert in felling and rooting up trees of large size is remarkable, so also is the readiness with which they secure tempting branches in positions seemingly the most inaccessible. Rearing themselves on their hind feet, the fore-legs resting against the trunk of a tree, they manage to bring down leaves and branches from heights almost incredible.

It is singular also to observe that, even where the Elephants roam in vast herds like one noticed by Dr. Livingstone, on the banks of the Zambesi, consisting of 800 animals, and covering an extent of more than two miles, the destruction of vegetation is almost imperceptible. This no doubt is due, as the Doctor suggests, to the care with which they select their food, but it contrasts strongly with the frightful havoc which a single animal will commit on cultivated ground. This careful selection of food, which is most noticeable in the larger animals, is doubtless not only necessary to their healthful preservation, but it prevents that vast destruction of the materials of sustenance, which their size, and the large amount of food they individually require when in captivity, would lead us to infer. The mutual relation between animal and vegetable life is perhaps more marked in places, like Equatorial Africa, which the disturbing influences of colonization have never reached; and we find consequently that the varieties of the larger animals are here placed amid vegetation, the differences in which are so marked, that

* Captain Drayson, R.A., in one of his South-African sketches, mentions the fact of a portion of a tusk, 5 or 6 inches long, having been found in the flank of a bull Elephant and which had evidently been broken off in one of these encounters.

† G. Cumming's "Five Years of a Hunter's Life."

the presence of particular trees and shrubs may be taken as indications of the presence of some particular beast.

The scarcity of suitable food and of water would appear to be the only checks nature has set to the extension of the elephantine race. The animal's vast weight, and the impenetrability of its hide, enable it to pass unresisted and unscathed through the desert thickets. It fearlessly breasts the strongest streams. Climbing on its knees or squatting dog-fashion on its hams, few slopes are so steep as to arrest its progress; while, as Sir E. Tennent has remarked in reference to the Ceylon Elephant, "no altitude appears too lofty or too chilly for it, if it but possesses the luxury of a boundless supply of water.

Elephants are long in reaching maturity, and, like all such animals, probably attain a considerable age; but on this point it is hopeless to seek for reliable information. The Ancients, we know, had wonderful tales of the longevity of these creatures. Philostratus asserted the Elephant lived 400 years, founding his belief on the story of one with a particular mark, having been captured by Juba, king of Libya, 400 years after an engagement in which the animal had fled to Mount Atlas. Pliny gives them an average life of from 200 to 300 years, on the authority of Aristotle; and the Romans, in the time of Gordian, chose an Elephant for the symbol of eternity. Setting, however, these fables aside, there is satisfactory evidence that the Asiatic Elephant frequently attains a considerable age, nearly a century in a state of domestication, and there is no reason to believe the African variety to be shorter-lived. Blumenbach, indeed, has placed their probable average age at 200 years.

It is singular that, while in South-east Africa the carcases of Elephants which have died a natural death are never found, in the Gaboon country the supply of ivory is, according to M. du Chaillu, almost entirely procured from the bodies of animals which thus die in the forests. This leads us to the subject of the animals' tusks, the "Elephants' teeth" of commerce. Not only are the tusks of the African variety generally of a far larger size than those of the Asiatic, but the ivory itself shows a remarkable difference of composition, containing a far larger proportion of gelatine, which, in many instances, renders it less fitted for manufacturing purposes. Some very fine ivory is, however, brought from a small tract of country situate, almost directly under the equator, on the Gaboon river. These tusks, which are rather small in size, are of a dark coffee-colour, in many cases almost black on their outside, the interior being what is termed technically "green ivory," which, when once bleached, is supposed to retain its colour more perfectly than any other kind. The largest tusk in Mr. Gordon Cumming's Museum weighed, as we have already stated, 173 lb.; but one is mentioned by Cuvier as having weighed 350 lbs.; and another, weighing 800 lb. (?), is said to have been recently in the possession of an American house. This firm sent to the Exhibition of 1851 the largest piece of sawn ivory of which we have any record. It was 11 feet long and 1 foot broad. Above 1,000,000 lb. of ivory are stated to be consumed annually in England alone, the price varying, according to quality, from £15 to £40 per cwt. More than half of this quantity is probably derived from Africa.

It has been sometimes asserted that the proportion of brain in the African type is considerably less than in the Asiatic, and that the intelligence and fitness of the animal for domestication are less developed; but there appears to be no sufficient ground for such a belief. Dr. Livingstone, in his recent work on the Zambesi, has pointed out a passage in Livy, which clearly proves that the Elephants used in the Punic wars were captured and trained by the Carthaginians, and were not brought from the East, as had been sometimes suggested with a certain show of probability. Medals, too, of the Roman Empire, which have come down to us, representing the performances of the animals in the amphitheatres, so plainly depict the characteristics of the African type, as to leave no doubt of their origin.

In Mr. F. Buckland's Second Series of "Curiosities of Natural History" is a passage which, although it refers to the Asiatic species, throws some light on the market-value of these animals at the present time.

"An Elephant," he tells us, "will fetch from £500 to £600. The young ones are preferred, as they require less food and are more manageable. There are no full-sized Elephants at present in England, and one would probably fetch at least £1,000. A dead Elephant will fetch from £20 to £50, according to size, any day."

ON SKETCHING FROM NATURE.

By Aaron Penley, Professor of Landscape Painting at the Royal Military Academy, Woolwich.

No. VIII. CRUMMOCK WATER, CUMBERLAND.

FULL instruction was given in last month's Nature and Art for the first washes of the Lake Scene, of which I now present the finished drawing. That it may be carried through without deviation from the first intention, I have worked upon the actual Chromo-lithograph itself, carefully attending (with another impression before me) to every detail of pencilling, so that those persons who undertake to copy it may be enabled to continue the colouring without confusion or difference.

There is much softness and simplicity of treat-

ment in the drawing—breadth being its characteristic. Therefore, when adding to it the warm grey shadows, all dark touches will have to be avoided, otherwise it will not exhibit that serene atmosphere for which our English Lakes are so deservedly renowned. Although *repose* constitutes the feeling of the scene, yet it is by no means wanting in variety either of form or colour. There is, indeed, much diversity—much for the eye to dwell upon, as it scans the broken surfaces of Red Pike on Crummock Water, and the High Style and Haycocks on Buttermere. It will now be seen how valuable those pencilled outlines have been in establishing truthfulness of form and position, giving to each spur of the mountains its true character and formation, so that the appropriate tints can be applied unhesitatingly to the several shadows of its component parts.

The clouds are touched upon with rose madder and indigo; the tint to be used very liquidly. After this is done, proceed to put in the shadowed side of the rocks on the near mountain (Red Pike) carefully following the pencilled outline. There are two degrees of shadow made with cobalt and rose madder, both of which are to be introduced *tenderly*. The greenish and isolated spur has a little yellow ochre mixed with the cobalt and rose madder; lake must be substituted for rose madder if the pupil has not the latter. A glazing—that is, a thin wash of colour—of raw sienna and a little gamboge is next to be put on the grassy surface, while, in the warmer parts, the tint is made with raw sienna and rose madder.

The distant mountains are principally shaded with indigo and cobalt, and the lighter spaces warmed with light tones of rose madder. The red tint also of the right portion of the mountain in light, is obtained by one or two washes of rose madder over the first tints. Each of the divisional markings or forms will require strict attention, for the reason that distances are determined by them.

The line of trees in the middle distance must now claim attention; and cobalt, with a little yellow ochre and Chinese white, be mixed for the grey shadows of their colours. The cobalt should be largely the predominant, and the less there be of the white the better, or the effect might be chalky. The warm tone and general character of the trees must be given by raw sienna, with a little cobalt and rose madder for the shadowy parts. In doing this, the forms should be gracefully given without regularity of either shape or size. The treatment of such a passage as this is generally found by the learner to be difficult, because much taste, and even skill, is required to prevent stiffness. The rocky projection to the right is of cobalt, rose madder, and yellow ochre, with a little brown pink added for the darkest parts.

The foliage of the large fir tree is done with a mixture of Indian yellow, burnt sienna, and indigo used in some substance. The forms are to be attended to very accurately, so that the clusters may fall into their several masses and take their proper shapes. The stem in its dark parts is deepened with brown madder and indigo, the touches being put on with decision. It is necessary to observe the breadth of light in this tree, or the general effect will be in danger. The deepest touches have burnt sienna added. Raw sienna and gamboge are employed for the grass in the foreground, with an occasional addition of indigo where the tone inclines to green rather than to citron. The several stones and rocks are cobalt, brown madder, and brown pink; the last colour only being required for the very warm and deep touches. Yellow ochre and rose madder supply the orange tones, and also serve for the stem of the tree where it is of a light and warm hue. The markings or touches in the foreground must be placed at the extremity of the different tints so as to impart clearness and brilliancy, and secure a crispness of effect.

The water should now have a warm wash of rose madder over the darkest side, and also at the front. When dry, two more washes of cobalt and a very little Chinese white are to be touched on horizontally, leaving the several lights. After this, go over the part from near to the boat with raw sienna and a little cobalt, to give a transparent tone, and with a little more raw sienna put on the few lines of ripples when the other is dry. The boat and figures are coloured with cobalt and light red; vermilion being added for the red coat. Indigo is for the cap of the foreground figure, and vermilion and rose madder shaded with sepia are mixed with the reds for the coat.

The principal endeavour of the learner should be to keep the whole of the forms throughout, from first to last, *clearly defined*. I have been careful to give a subject for illustration that bears this stamp of manipulation, well knowing its import, and more especially in works intended for the portfolio. In this drawing the effect has been produced without any washing off, and is simply the result of laying on the colours with care and neatness.

A few words as to the design and construction of our drawing may be of much service in explaining how light and shadow, as well as contrast of tones, are dispersed systematically so as to produce a pleasing balance of effect. The sky has in it but little actual blue, which will be found at the top to the left side; this softens into warm grey to the right and deepens into a bluer tone as it reaches the mountains, while it weakens gradually into light broken clouds, interspersed with white on the lower part over the dark mountains. The water is the reverse of the sky, the dark side being under the light of it, and the light side under the dark clouds, so that the highest lights may be said to have exchanged places. This is also the case with the mountains. The breadth of warm colour on Red Pike is taken across the drawing on the foreground, and the blue-tone of the mountains in contact with the light sky, is in a less degree repeated in the darks of the line of trees, and the separate spurs at the bases of the large mountains. The breadth of warm colour is diffused over the distant foliage, and joins the foreground which is brought to a focus

upon the white bit of rock near the tree's foot, against which the figure is placed. As the principal weight of the drawing is in the tree and stones of the foreground to the left, it was requisite to give strength to the other side, only in a less degree, for which purpose the boat and depth of shadow on the rock were introduced, and they will be found to have given the balance sought. The foreground figure and the boat with figure serve to give a little animation to the scene as well as positive colour.

Believing this class of drawing to be more instructive than any other under the term of pure landscape, I purpose to continue it, and in my next subject to pursue again the plan of treating the preparatory and the subsequent stages in separate papers.

THE DUDLEY GALLERY.

FEW of us are in danger from admiring over much. It is easy, by wilfully taking a view unsympathetic with that in which a picture or other work of art has been conceived, to misprize even the greatest artists, whose habitual style of thought and power are well known. But this charming gallery is filled, for the most part, with the works of new men who bring us new wares, and therefore demand from us a stricter attention—a more generous construction—where we see in them "good thought," even if inadequately expressed.

Besides, in art, the seeing makes the sight. Most good pictures are of infinite suggestiveness; nor is the artist bound to have intended all the effects the exercise of his special gift produces on other men. For the works of a true artist have this in common with the works of nature, that they are of universal speech and relevance, having besides a meaning and language of their own, known only to the maker of them. Therefore, having recognized in any work the presence of that mysterious and divine intelligence which we call imagination, it is pleasant to give ourselves up to the impressions produced by it, reserving criticism of its faults and shortcomings (if it should not reach to our ideas) for some other time; surely our dull climate affords many a grim day for such a purpose. Not that we deprecate criticism—especially technical criticism—between artist and artist. But now and again we think it well to be pleased by what is well done, and to leave what is ill done out of the question.

This preface is to excuse beforehand a criticism which is to be almost all praise, and deprecate the just wrath of those righteous ones who would have offenders punished, whatever else befall. And first we will praise the pleasant room, not too large, and clearly lighted throughout. This exhibition has quickly earned popularity with all men who have work to show, but have not yet attained a place in the secure niches of the established societies. And here, more than anywhere else, we may look for signs of the tendency of our school, since the gallery is chiefly filled by the works of young men, of whom many are still in pupilage to some great enthusiasm for the works or teaching of one or other of the masters of the art. And from the direction this admiration most generally takes, we augur of the future of the school. And we think we may congratulate ourselves (who are dependent for so much enjoyment upon the rightness of this choice) that the pictures about us offer a striking proof that art is making steady way in England. Everywhere among them we find evidences of the right thing having been tried for: meretricious prettiness and facile sentiment are more rare than in many collections of greater renown. On entering the room, almost every one must be struck by the general harmony of colour resulting from so many well-toned pictures; and, on examining them more closely, one sees at once that they are almost all founded upon some scheme of effect, oftentimes novel and beautiful, and always applied from nature.

Here we will diverge for a moment to point out the influence for good the study of the art of the Chinese and especially of the Japanese (those masters of effect and colour) has had upon our school. This, we can imagine, may appear paradoxical to those who only see distortion and quaintness in the work of these ancient peoples; but we are sure of our ground in appealing to all serious students of art to bear testimony to the value of their teaching.

And now let us see what we may find in the pictures, wandering about from one to another without any guiding plan of examination, and acknowledging once for all the merit of many we leave unmentioned. Here, for instance, let us look at Mr. Poynter's "Snake-Charmer" (No. 586). Mr. Poynter's pictures are always among the most interesting in any exhibition. There are few men in England who could have drawn and designed a picture like this with such certainty and intelligence. It is full of knowledge and original study. The snakes glide and flow round the dancing feet in real snake lines. The orange drapery is admirably planned and painted, and the round limbs of the girl are of exact truth. Then, how good are all the details of the scene. Observe the pretty shape of the fuming incense-pot; and again, the bright butterfly, a beautiful half-thought and a most skilful invention of colour. Mr. Poynter has another picture here (No. 313) of a great curve of coast, beset by a gusty flaw of wind and rain. This is is a wonderfully true effect of rent

grey sea and flying rain. Beyond the shower one sees the fair weather, but glimmering very pale and far away. Especially to be admired is the drawing of the surf line clinging round the low green headlands and darkened hills. It would be pleasant to have this picture of the fresh west wind in one of our gas-dried London rooms. But there is another picture of Mr. Poynter's that we should also like to hang up in some pleasant corner near a window. It is only of a cat stealing across a quiet gravelled walk, but it reminds one of so many pleasant country sights and sounds, that one becomes dreamy and idle merely by looking at it.

Let us pass on to Mr. Goodwin's "Grey Day in Yorkshire" (No. 238). It is a good example of this young artist's serious power. If we miss some quality of high idealism in his work, we find in it evidence of an unusual grasp of the facts of nature, and of an almost passionate delight in their representation. The blots and lines of colour are placed firmly where they are to take their part in the effect, and with a certainty very unusual in so young an artist as we understand Mr. Goodwin to be. The tone of all his pictures is rich and powerful, and, in this one particularly, is of admirable truth. The scene is only a little pool among the Yorkshire hills—one bank wooded, the other green sedge and peat-land. We can see it is summer there now; but it is a place more known of the winter. The trees under their robe of leaves are knitted and braced against the strife of the moorland winds. In the deep green of the heavy grass the feet of the heron plash cool when the hill-sides are hazed with heat. Hither come few men, or creatures that dwell with men; the cry of the wild birds or the sound of the sighing wind that brings up the cold grey shower are the voices that befit it best. It is a place that reminds us that nature can get on very well without us and was not only made for our beholding. In all his work Mr. Goodwin seems to choose this side of nature: it is a great and solemn one.

Now let us look at Mr. Ditchfield's pretty idyls. He seems enamoured of fair lawns and the quiet of green places. There are no brambles, or poor folk, or bluebottle flies in his lands. They are really sweetly pretty places, and we imagine that, perhaps, if we had very pink cheeks and a nosegay in our button-hole, and a lovely young lady with still pinker cheeks to make love to, and if we were both of us painted upon a fan, we might some day be accounted fit to dwell within their borders. As it is, Mr. Ditchfield must pardon us for only taking in them a sort of fanciful interest. They must be views in the "Pays du tendre," and we should like to have them as such, particularly as there is great skill in their execution. Let us go back again, however, to waters that drown and airs that stir with storms sometimes.

Mr. Arthur Severn's "Moonlight on the Seine" at Paris (No. 248) is a fine and largely-treated study of night. The strong river and the white glittering town are sunk deep in the shadow. There are no lamps alight, for it is late, and soon it will be day again, and the truce of night will be over. Meanwhile the moon passes above the great city, making to herself a pageant of the silver clouds, and, one might think, reclaiming the spot for nature, minded, by the silence, of the time when no man dwelt by the marshy river and the wild swan built among the reeds of its islands. Many a sight of misery and wrong has she seen since that ancient time; and one fancies she must mostly love the quiet pauses of the world when men and their works are still, and are as if they were not. To our minds this picture will bear out all this interpretation of its sentiment; and it is pleasant to find that on the side of art it is sound and learned. The drawing of the sky is very fine, and the great lines of the picture well composed. The tone is good—if not exquisitely so—and the colour of the halo round the moon very delicately caught. It is well and vigorously painted, and seems done with one impulse. Mr. Severn has other works here, and we advise our readers to study them to find what may be found therein; for Mr. Severn has the gift.

Mr. Henry Moore's "Strenshall Moor—Mid-day" (No. 326) is a very beautiful sketch. There is a sense of stir and gladness in it. The scene is wild but not unkindly. One sees that the afternoon will be fair after the showery morning. There is nothing in the gallery more excellent for natural and delightful colour than this picture, and we would call the attention of amateurs to the power of right tone to harmonize all tints and dignify the most commonplace subject.

"Old Morton Hall, Cheshire" (No. 377), painted by Mr. Walter Crane, must be a delightful old house, and Mr. Crane has evidently felt it to be so. The picture is also noticeable for the clever use made of a black-and-white cow, to repeat and carry through it the black and white of the old stud-work house. If the sky were a little sweeter in colour, we should class this work very highly.

Of Miss Spartali's three pictures, we like that of the "Lady Prays' Desire" (No. 606) the best, in spite of the somewhat weak drawing. It is throughout imbued with high sentiment and most noble grace. See, for example, how the delicate hand is placed against the cheek. The colour also is of such unusual harmoniousness, that we pass over the slight unskilfulness of execution, and will only say that we trust this young lady may soon attain the mastery in her art that her genius demands for its expression.

Mr. Ford Madox Brown's large work, which he calls "Cordelia's Portion" (No. 249), is undoubtedly the most noteworthy figure picture exhibited here. It illustrates the line,—

"The truth, then, be thy portion."

The true dramatic crisis has here been taken, when Cordelia, conscious of powerlessness to defeat the plots of her sisters, adheres with despair to her foolish quibbling answer, like some gentle creature that cannot strive.

Here is a great subject, and, we venture to say, greatly treated. Of its faults we will respectfully

speak presently, but for the present let us consider the intelligent and skilful arrangement, the lovely colour, the wonderful expressiveness of the heads, the delicate inventive detail. Cordelia is one of those typical characters for which each man finds an embodiment according to his experience and idiosyncrasy; and so, if one is pleased to say this is not the Cordelia of his own musings, we feel that the question does not admit of argument, and would therefore only point out that this figure represents the agony of a creature fine and gracious, firm to bear, most gentle to protest, of few loves, but many charities, of clear wise counsel, but of little craft. And such was Cordelia. If you think she had blue eyes, not brown ones, or that her hair was of a paler gold, or that it fell in simpler braids; if there are these or a hundred other differences between your conception and the artist's, you may object: but the character of Cordelia, we aver, is here adequately embodied. About those of the other personages, no attentive person can be in doubt. Lust, cruelty, craft, pride, all furious hates, make pale the face of Regan, and burn in the fierce eyes of Goneril; see, too, her fleshy white arm and sensual hand. Albany is noble by contrast, and is, perhaps, the redeeming point in this part of the picture as he is in the play; and Lear, with the coming madness gleaming in his eyes, is again a great study of character. He is arrogant and self-willed, for he has long been a king. Brave he is, and somewhat cruel; violent, but not vindictive. You can find no lines of cunning in his gaunt face, all haled by weather and fierce feasting. That he should not do what he would, bewilders him. You see him here blinded by rage against the inexplicable opposition to his pleasure that Cordelia's misunderstood answer has raised up. His eyes do not see in her his daughter, but a stumbling-block to be cast out of the way. His strong hands would smite her, if so weak a creature could stand at bay. Albeit, he is not wont to be harsh to the feeble, and —if we may judge from the vigorous eyebrows and large mouth—he, too, "has knowen love and his service," as Chaucer says.

There are, no doubt, things in this picture which require some explanation. Why, for instance, has the nose of the child been snipped off by the frame? But probably the artist who has carried so fine a work to such a point had some good reason for this. As to the colouring, there can only be one opinion of its technical perfection. It may be reasonably held that, in such a scene, the embroideries and details would be little noticed, and that, in representing such extreme emotion, it is right to follow this natural law of perception, and even to force the face and hands of the personages into a prominence which all who have witnessed any great crisis of human life remember to have been its most striking characteristic. Mr. Brown has not chosen this effect, and we must take him as he comes before us. There is gain in beauty of colour and interest of detail, by the treatment he has adopted. How lovely the clear green of Cordelia's robe. How rich the black and orange striped robe of Regan, and how inventive the varied black of her hair folded into the bosom of it. The head of Albany is fine in colour also; and if the arm of Goneril is not very well drawn, it is very fair. All through the picture there are beautiful inventions of ornaments and patterns, and a power of realizing the costume of the remote time to which the story belongs. We could write much more upon this subject, but we think we have said enough to send our readers to the picture itself. If, having seen it, they do not like it, we feel that no eulogy of ours can change their opinion; for Mr. Brown's work has no conciliation for a hostile critic: we know of none that excites greater opposition; nor is any a more constant source of delight to those who do admire it.

In great contrast to the passion and dramatic intensity just described is Mr. Field Talfourd's very lovely idyl of the "Summer Sea" (No. 215). Here everything is of the simplest. There is no more work than just explains the effect. The subject is only an old boat drawn up upon the sand, under a low bank—and the sea. And yet it is perhaps the most suggestive work in the whole room. In the first place, it is really simple. Simplicity is a quality so often affected, that one begins to suspect the word; but true simplicity is one of the greatest qualities a work of art can possess, and can only be produced by clearness of idea, complete design in colour and composition, and a mind capable of harmonious thought.

If you examine this little picture, you will begin to perceive how many things might have been put into it which are not there. It seems impossible to have escaped sea-gulls, or distant cottages, or fishermen, or (more dangerous still) their children. Why is there nothing but this old boat and the pausing sea? Without a guiding idea, such a picture could never have been composed; no canon of taste could have taught the artist that these simple lines are all that are required. Now that it is done, we know that any living object, or object suggestive of neighbourhood, would have disturbed the mute companionship of boat and water, as they take their ease in the summer calm. There is something very touching in this sturdy little boat, lying at the edge of all the great sea, nearly within reach of the soft foaming and warm shallows of the waves. The sky also is at rest; the small clouds and films of haze are, for the moment, anchored in the fair blue weather that shows between the banks of heat-fog. All the artillery of tempest is there; but it is the armistice of summer. This picture is charmingly painted, with few colours, and apparently few touches. The warm haze is wonderfully true, and the loose sand-bank exactly right in hue. Mr. Talfourd has never, we understand, exhibited landscapes before. The loss has been ours.

AN HERALDIC PUZZLE AND ITS SOLUTION.

By G. CHAPMAN, F.S.A.

WHEN we visit the collections of a large National Museum we usually come away with a general idea of the whole, but rarely with a clear notice of any one individual object. Each specimen has probably, however, its special interest if properly studied; and, as an example, the reader is invited to bestow his attention for a time upon one single article, among the almost countless treasures now exhibited at the South Kensington Museum.

The object we select is a small metal box, covered with enamels, of which the accompanying coloured drawing affords a most faithful representation. Placed as it is in the crowded cases of the Museum, the eye of the visitor rests upon it for a moment, and passes on to others, little knowing the interest that it would yield if its history were worked out, — a threefold interest — Heraldic, Historical, and Artistic.

And here we digress for a while to remark how little justice is commonly done to the study of heraldry; its real importance in history, genealogy, and other kindred subjects, being generally overlooked, and its follower being accounted a mere trifler in a pretty, amusing, but very useless study. A most instructive essay might be written in refutation of this popular error. Perhaps the present article may be regarded to some extent in that light; an apology for the study of heraldry!

It may first be mentioned that reliquaries, or ecclesiastical caskets of Limoges enamelled work, of the thirteenth and fourteenth centuries, are of frequent occurrence; but that domestic caskets (jewel or money-cases), of which the present is one of the most beautiful and valuable of the period in existence, are much more rare.

The dimensions of the casket are as follows:— 7 inches wide, 5 inches from front to back, and $2\frac{3}{4}$ inches deep, on legs $\frac{3}{4}$ of an inch long; so that it stands in all $3\frac{1}{2}$ inches high. It is of copper gilt, entirely covered, as is seen, on the top, front, back, and sides with coats of arms in enamel, arranged in the manner that was anciently termed *diaprée*, or lozenge-wise.

The number of different coats of arms is six, with a portion of a seventh, probably a mistake of the enameller. They are repeated all over the casket, each occurring thirteen or fourteen times, in all 79 coats.

The arms are now considered to be as follows; the chief doubt having been as to the sixth:—

1. *Valence.*—Barry of twelve argent and azure, an orle of martlets, gules.
2. *Engolesme or Angoulême.*—Lozengy or and gules.
3. *England.*—Gules, three lions passant gardant in pale or.
4. *Brabant.*—Sable, a lion rampant or.
5. *Dreux, Brittany.*—Chequy or and azure, a bordure, gules, over all a cantar ermine.
6. *Lacy, Earl of Lincoln.*—Or, a lion rampant purpure.
7. ————.—Azure, a lion rampant or. This occurs once. No such coat is known, and it is, doubtless, a mistake of the artist for No. 4, Brabant.

Having determined to whom the coats of arms belong, we pass on to the most interesting consideration of all,—the historical associations of the casket. The reader will not fail to see that, in order to identify the person for whom this casket was made, it is necessary to find some one who, if not actually entitled to quarter all these coats of arms, was connected, by marriage or otherwise, with all these noble families, and would, therefore, not hesitate to place them together on a monument, casket, or the like. This has been the puzzle, and many have been the unsuccessful guesses at its solution. Various members of the different families have been thought of; but, on closely examining their pretensions, some flaw was discovered in their title to the original ownership of the casket,—till at length the riddle was read, and a claimant uniting all the requirements was found in the person of William de Valence, Earl of Pembroke, son of Isabella of Angoulême (widow of John Plantagenet, king of England), by her second husband, Hugh X., Count de la Marche. To show this, it becomes necessary to sketch her biography and connexions.

Isabella of Angoulême was the only child and heiress of Aymer, Count of Angoulême, surnamed Taillefer, the vassal of John, King of England and Duke of Normandy and Aquitaine. She was, when a child, betrothed to Hugh de Lusignan, surnamed Le Brun, the eldest son of Hugh IX., the reigning Count de la Marche, fellow crusader with Cœur de Lion; and she was, agreeably with the custom of the times, consigned to his family for her education.

Chancing to meet her liege lord, John King of England, on one of his occasions of visiting his French dominions, he was much struck with her great beauty; and she, seeing him captivated, and being carried away by the flattering prospect of so grand an alliance, refused to acknowledge her marriage contract with Count Hugh, and was married to the king at Bordeaux, on the 24th August, 1200. She bore him five children prior to his death in 1216; and the following year she returned to Angoulême; and in 1220, or thereabouts, was after all married to her first and constant lover, Hugh, then tenth Count de la Marche. To

him she bore five sons and three daughters, and died in 1246. He died in 1249.

All the children of her second marriage, except the eldest, who succeeded his father, were sent to her son, Henry III. of England, who provided magnificently for them; and these, his brothers of the half-blood, are connected with most of the grievances of his troubled reign.

The eldest son was Hugh.
The second, Guy de Lusignan, who was killed at the battle of Lewes.
The third, William de Valence, Earl of Pembroke, so well known in English chronicles.
The fourth, Aymer de Valence, Bishop of Winchester.
A fifth son, Geoffery de Lusignan, Lord of Hastings, is mentioned in Speed's Chronicle; but he is believed to be identical with the second, Guy de Lusignan.*

These sons of Queen Isabella were named from their places of birth; those called "de Valence" were born at her lord's castle of that name, the others at his more celebrated castle of Lusignan. William de Valence, and he alone of the sons, so far as we can discover, bore one of the coats on the casket.

Supposing then the casket to have been made for this son of Isabella of Augoulême, the coats of arms placed upon it are accounted for as follows:—

1. Valence.—His own arms. He was killed in France in 1296. His only surviving son, Aymer, succeeded to the earldom, and died without issue in 1323.
2. Angoulême.—The arms of his mother's father, Aymer, Count of Angoulême.
3. England.—The arms of his nephew, Edward I.
4. Brabant.—The arms of the husband of his great-niece Margaret, daughter of Edward I., namely, John, Duke of Brabant, who married in 1290, and died in 1312.
5. Dreux, Brittany.—The arms of the husband of his niece Beatrice, daughter of Henry III.; namely, John, Duke of Brittany, who died in 1305.—
6. Lacy, Earl of Lincoln.—The arms of Henry de Lacy, Earl of Lincoln, who died without issue male in 1312. His grandmother, Margaret de Quincy, married for her second husband, Walter Marshall, Earl of Pembroke, the uncle of William de Valence's wife, Joan de Monchensi.

These facts show, almost beyond doubt, that the casket was made for William de Valence, Earl of Pembroke; in which case we are able to assign to it the date of the latter part of the thirteenth century. It may, however, have been executed for Aymer de Valence, his son; in which case the work would be referred a little later,—probably a year or two after the father's death, or, at latest, to some time before the death of Henry, Earl of Lincoln, in 1312; for, if made for the son, we should assume it to have been by the same artist as executed the famous monument of William of Valence in Westminster Abbey, which is enriched with similar enamels. For the present only, we dismiss the artistic consideration of the casket; its workmanship is undoubtedly French, probably of Limoges; a very fine example of that class of enamels known as *champlevé*. In a future article it is proposed to give an account of the different kinds of enamels, illustrated with drawings; a brief history of the art, and a description of its processes, so far as they are known; and reference will then be made again to the drawing accompanying this paper, when it is hoped that the reader will find the casket yield some further interest.

* See *Art de vérifier les Dates*, ii. p. 383.

LANDSEER'S LIONS.

IN the centre of the great square of the capital of England, in the high place of national honour, round the base of the monument which commemorates the most characteristic achievement of our race, are four great masses of bronze wrought into lions, proud emblems for all future Englishmen, of courage and endurance and stately honour. If we say that we do not think Sir Edwin Landseer, to whom we owe these fine works, has risen to the height of such high argument, we in no way impugn his power to do other things. No man need be ashamed of failure in such an undertaking. It would seem almost as if the creation of great emblems was only possible in certain states of society and to certain races of men. The perfect abstract form of any idea can only be reached when success is the crown of many efforts. One cannot step aside from the ordinary ways of life and say that for a day or a month, or series of months, one will cultivate ideal thought to some special end. When men constantly live in the presence of a spiritual world, where the phenomena of life are habitually regarded as the mutable types of some divine quality, we may hope to find an art capable of clothing an abstract idea in clear, tangible form. In the present day such a thing is almost hopeless, for in this matter taste and knowledge will not serve a man as guides. It is not given to us of the modern time to create such forms as the terrible creature that watches, calm, invincible, imperishable, within the walls of our Museum. Who would see what the terror of a lion is, the terror of strength remorseless and just, may there find sufficient reason for saying that our English lions are not of the greatest art,

nor indeed in any way fit to rank with the works in which national conviction has expressed itself in certain ages of the world. They are lions such as we have seen in our menageries, but not the British lion. Their manes, too, are rather soft and woolly —one does not see those large divisions where, when the great beast frowns, the hair divides and seams. Again, the uniform colour of the bronze does not render the terror of the fangs, and we think the expression of the mouth somewhat grimacing. The muzzle, also, is perhaps a little sharp for so large a work, which must necessarily be seen against a great background of confused objects. The eyes and forehead are certainly imposing, and wonderfully true to nature; the position of the ears forcible and yet unexaggerated, while the drawing of the head and neck generally is very exact. The finest part, however, of these statues is the back and loins; this portion is really grand, and, if the tail had been carried a little more out, would be as perfect as anything modern art has produced. The paws are not successful; they may be true to nature, but they are not right in art. They are not sufficiently modelled or marked, and have a look of being swollen. We fancy, also, that if the place of the claws was more sharply marked, the truth would have been better expressed; for, if we remember rightly, there is a line of dark hair behind the fringe of white in which the claw-sheaths are set. Taking the lions, however, for what they are, we must grant that Sir Edwin has worked here as well as he ever did. They have all his facility, his elegance of taste and sound knowledge of the form to be rendered. The forms are not of that typical perfection which makes us forget the individual. There is an attempt to render them vast by suppression of small details; but this has not been steadily kept in view, and the lines are rather blurred than sublime.

MUSIC AT HOME.

"NOTHING venture, nothing have," is an old saying generally included among the wisest of our English saws. "Fortune favours the bold," is another, and in both of them Signor Arditi and the musical commonwealth, late of Her Majesty's Theatre, must have implicitly believed. Imitating the tactics of the old fighting Romans, they formed themselves into a kind of harmonic wedge, and set about forcing a certain theory or conviction upon the modern Britons, namely, that Promenade Concerts are good for them at any time of the year. With Signor Arditi as "foremost man," this musical phalanx commenced a campaign against British prejudice on Saturday, January 12th, and withdrew from the contest on Saturday, February 16th. The "Orchestral Popular Concerts," as they were termed, were given on Tuesday, Thursday, and Saturday evenings; and if the promoters are not to be congratulated on the pecuniary result of the enterprise, they may be, at all events, complimented upon their courage in taking the theatre and the responsibilities in the face of most formidable opposition. Promenade Concerts do not, and, probably, never will, form part of our Christmas holiday-time festivities; and though the extensive "welkin" of Her Majesty's frequently rang with applause, the equally extensive area was seldom, or never, inconveniently crowded. The first concert was "popular" in every sense of the word. Signor Arditi "contributed" a new polka; a new quadrille on airs from Rossini's *Guillaume Tell;* a new song called "They ask me why," and sung by Signor Foli; and the valse "L'Estasie." The active *chef d'orchestre* scores cleverly, as his valse proves, writes very independently, as his song demonstrates, and, in the course of his quadrille makes musical mincemeat of poor Rossini in the most approved and ruthless fashion. Of a truth the quadrille has somewhat altered since the early days of Musard and his "Echos" and "Danois"! Mdlle. Agliatti, a new singer, "débuted" in London on the 12th, and vocalized at intervals to the end of the brief season. Mdlle. Agliatti at present carols indifferently well, but mademoiselle is young, and in youth there is much promise. Miss Madeleine Schiller, with a delicate touch despite cold hands, and with a heart that evidently warms to the "tchunes" of Hibernia, played Moscheles' "Recollections of Ireland" unaccompanied by the orchestra; and Mr. T. Harper, the champion trumpeter of the civilized world, gave, "by particular desire," Dr. Arne's "Soldier tired." The trumpeter mayhap was fatigued or the instrument refractory, or the crispness and certainty of execution to be expected and desired did not, on this momentous occasion, appear; nevertheless is Mr. T. Harper *the* trumpeter *par excellence.* Signor Arditi treated the benighted Londoners to an orchestral fantasia, "Souvenir d'une Nuit d'Été à Madrid," by the Russian Glinka. The music of the extreme North was put upon its trial at several succeeding concerts, but was found wanting in interest and coherency. The not strikingly melodious "Scythian" found a stanch friend in Signor Arditi, who did all he could to make the Russian's music understood and appreciated. The third "Orchestral Popular" (Jan. 17th) was entirely classical, and eminently acceptable to connoisseurs. Beethoven's Pastoral Symphony, a Scherzo and Finale of Schumann, Dr. Sterndale Bennett's exquisite overture "The Wood-Nymphs," Mendelssohn's violin Concerto (M. Sainton), and Weber's Concert Stück (Miss Schiller),

with airs of Mozart and Handel by Mdlles. Liebhart, Agliatti, and Signor Foli, were all included in the programme. These particulars of two of the "Orchestrals" will prove the vigour of the management. Mdlle. Sinico, and Miss Fanny Jervis, a pianiste of no ordinary stamp, subsequently appeared. At the second classical concert, Spohr's magnificent Symphony commonly known as "The Power of Sound" was performed in a manner not quite intended by the grand old musician.

Ballad Concerts are again in the ascendant, and with them is specially identified Madame Sainton-Dolby. Amateurs were at first sanguine enough to believe that the cause of old English ballads would be advanced at these remunerative entertainments. That musical antiquarian, William Chappell, and his "fellow-student," G. A. Macfarren, have done their duty in pointing out the beauties of the true English school; but concert vocalists apparently find it more profitable to sing the songs of Queen Victoria's time than those of the fifteenth and sixteenth centuries. Madame Sainton-Dolby gave a ballad concert on the 16th of January at St. James's Hall. Whittaker's and Shield's names appeared in the programme for a song each, and Bishop's for two. The very long and dreary intervals between these illustrious strangers were filled up by Nelson, Lemmens, Blumenthal, Claribel, G. Hodgson, Virginia Gabriel, Weiss, Glover, Boscovitch, Lüders, and Miss Philp. Mr. W. Chappell should collect every copy of his heretical book which lovingly proclaims the *old* English ballads worthy of acceptance, and serve them as Don Quixote's clerical friend did his library of romances; for it appears the aforesaid ballads are to be henceforth quietly dropped in favour of modern inventions. Has the hideous and pertinacious spectre which one calls "Shop" nothing to do with the contemptuous ignoring of the national ballads by the singers of the present day? "Once I loved a maiden fair," "Cold's the wind, and wet's the rain," "Ah! the sighs that come from my heart," and such-like, are perhaps very well in their way; but they could not be marked three or four shillings, and are hardly available for the superscription, "Sung by Madame or Miss So-and-so," or the autographs representing so much per copy. Old ballads are, in some people's estimation, "beautiful for ever," like the arch enameller's favoured subjects; but others in genteel life seem to consider them eligible for the kind of treatment old friends sometimes meet with. They may be honoured and appreciated in private, but they must be cut dead or be favoured with the coldest of shoulders in public. It is somewhat hard that the time for cleansing the gems of old English melody from the dust of succeeding ages is so systematically put off, especially as the dust aforesaid accumulates with alarming rapidity. It was originally presumed, and naturally enough, that the so-called "ballad concerts" would rescue some of the loveliest melodies ever written from absolute oblivion; but their mission is apparently the popularizing of a few songs which in ten years will, probably, be remembered to the same extent that Mr. Balfe's *Blanche de Nevers* is now. Real lovers of good music do not sigh for concerts composed of Elizabethan melodies entirely, varied by fantasias on the virginal, but they would be glad to see the relics of antiquity treated with the consideration they deserve. The concert vocalists are perhaps afraid that old and new ballads introduced in equal proportions would result in the humiliation of the former. The old *might* pale before the new, but the experiment would be worth a fair, open, and candid trial.

The admirable Winter Concerts are progressing satisfactorily, and vague rumours are already pointing to the possibility of a new music-room as part of the forthcoming restoration at the Crystal Palace. *Messieurs les Directeurs* will, perhaps, have a little consideration for those unfortunates who do not occupy reserved seats, for their privileges have been much curtailed of late. The "lower fifteen" appreciate a comfortable seat as highly as the "upper ten;" and if any new arrangement may be in contemplation, it is to be hoped the plain "guinea season-ticket" holders may find room to rest and be thankful, and to bless the executive body with as much fervency as they have occasionally anathematized it.

"VENUS'S FLOWER-BASKET."

(*Euplectella speciosa.*)

By W. B. Lord, Royal Artillery.

IT is not among the endless variety of floral gems which deck the forest and the plain, or the glittering ores and crystals of the earth, that our search for forms of perfect grace and loveliness need be confined; and however charming and admirable the wax-like petals and feathery fronds of the choicest flowers of the Tropics may be, or however radiant the mineral from the deepest mine, there are treasures as exquisite as any of them, scattered amongst the teeming gardens, or stored up in the great reef-caverns beneath the rolling billows of the sea.

The sponges, corallines, anthozoa, medusæ, seaweeds, and the countless other productions of the deep, each have their types of beauty; myriads of tiny ocean flowrets and fruitlets hang from rock

Fig. 1.

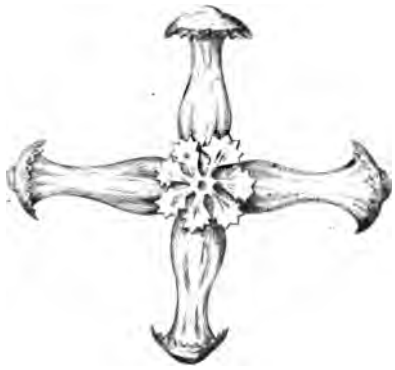


Fig. 3.

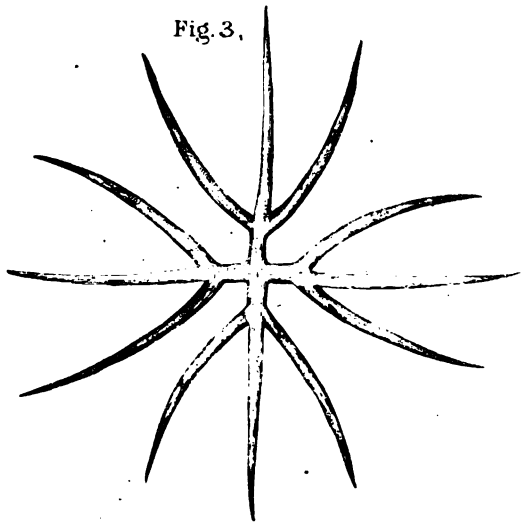


Fig. 2.

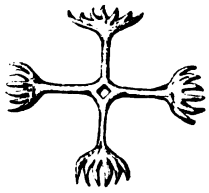


Fig. 5.

Fig. 6.

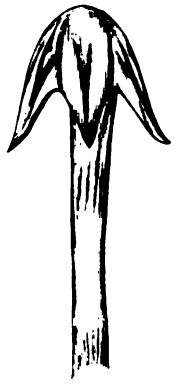


Fig. 4.

Fig. 9.

Fig. 10.

Fig. 7.

Fig. 8.

and ledge, waving their thousand fringes and gorgeously-shaded tentacles in the deep blue water; whilst fish vying with the rainbow in their radiance of tint and banded beauty, flit bird-like in restless play amongst the ocean leaves and blossoms. Many of the shells and molluscs are so perfect and exquisitely beautiful, that from the very infancy of art they have remained the favourite aud unsurpassed designs from which the greatest triumphs of ornamental work have been executed. The wandering explorer and naturalist, who gleans his harvest amongst the reefs, coral sands, and lagunes of far-off islands and little-frequented coasts, like the plant-hunter, who seeks his prizes in the vast forests of distant lands, from time to time lights on some new and unknown marvel of nature's handiwork wherewith to delight not only the scientific world, but even those least susceptible to the charms of nature. Such are the subjects of our illustration, which, being the result of photography, faithfully show the form and structural arrangement of these exquisite sponges (for sponges they are), although the clear crystalline transparency of the lace-like network of which they are built up, as though spun by fairy craft, is such as to defy the efforts of art to represent. Cornucopia-like in form, crowned with a cover of elegant design, they have been appropriately named *Venus's Flower-baskets*, or the *Euplectellæ speciosæ* of the naturalists. This beautiful production is a native of the warm and genial seas washing the shores of the island of Zebu, one of the Philippine group, where it was first discovered and brought to light by fishermen, about a year since, and is said to inhabit very deep water, forty fathoms or thereabouts, where these sponges fix themselves to the sand, or other suitable point of attachment. All the specimens which we have seen appear to have grown on a deposit of coral and shell-sand, and have small shells entangled amongst the mass of fibres at the bottom of the sponge. That they at times attach themselves to other substances, there can be no doubt, as Mr. Wright, of 90, Great Russell Street, to whose courtesy we are indebted for the subjects of the illustration, states that there is now in Germany a piece of timber brought from the island of Zebu, on which are ten specimens,—a rich haul for the fortunate fisherman who discovered it.

The first specimen obtained by Mr. Cumming (now in the British Museum) was both bought and sold by him for £30; others have been purchased at from £10 to £15; whilst of late, from fresh discoveries having been made, they have become comparatively cheaper; but are still costly enough to render a successful search for them highly remunerative. Some specimens we have seen have a portion of the sponge, of a brownish colour, still adhering to them: those in the illustration are the crystal frames only.

No doubt the careful search which will be set on foot by the inhabitants of the coast, when their value in the market is known, will go far to clear up some of the mysteries now hanging round their growth and formation. One of these is the almost invariable presence of the remains of one or more crabs in the interior of this, to them, "*crystal prison*," out of which escape is just as impossible as from a capsuled bottle. Many differences of opinion exist as to the mode by which the crabs first obtained an entrance. There appears, however, little doubt that this is effected whilst the sponge is in an immature condition, and before the cover is woven. There is a young specimen which we have examined in the British Museum in this incomplete state, and it is questionable whether the basket-like tube is ever covered until it has reached maturity, when, although the sponge appears to cease growing in an upward direction, the power possessed by it to secrete the silicious matter of which the network is composed, remains unimpaired; and, like a skilful artisan as he is, he at once repairs neatly such injuries as his crystal palace may sustain.

Dr. Gray has in his possession a specimen in which a repair of this kind has been effected. A hole appears to have been broken by some accident in one of the sides, about halfway between the point of attachment and the crown. A new network of fibres, in bunches, has been substituted for the broken ones, of form much like the original structure.

The peculiar curved or *cornucopia*-like shape usually, although not invariably, assumed by these baskets, has also given rise to much speculation amongst the scientific. Dr. Gray is of opinion that the weight of the crab, when crawling through the interior of the tube, may influence the direction in which the basket is found to incline. He says: "As the crab becomes imprisoned in the cavity, it will be constantly walking up and down the tube to procure food, and by so doing it will most likely bend the tube on one side; so that the free end of the tube may become bent down nearly to the level of the base." Whether is this the true solution of the enigma, or, like the goblet forms of some species and the rounded contour of others, may not the cornucopia form, after all, be that most common to *E. speciosa?*

It appears to be the prevailing opinion amongst the fishermen by whom the Euplectella is taken, and by whom it is known as the *Rigederos*, "that it is the work of two insects (meaning probably the crabs found in the tubes) at the bottom of the sea;" and a French correspondent, in writing recently to the authorities of the British Museum, expresses his opinion that the Euplectella is the work of the crabs.

There are many reasons why this opinion should be received with the greatest caution. In the first place, we know of no crustacean possessing a like power of silicious secretion and construction. Then the crabs which are found inclosed are not always of the same species, or even genera. Dr. Gray is of opinion that one which he examined through the meshes was a *Pagurus*, of which the *hermit*, or soldier-crabs, so frequently found in whelk and other univalve shells on our own coasts, are examples.

On many of the coasts of the tropical seas, crabs

of this description are of a very large size, and unceremoniously seize on any tenantless shell of convenient form they can discover, seeking a new habitation as their growth increases, and leaving the old one for another tenant of less ambitious requirements. Crabs with habits such as these would not fail to investigate a hollow tube of such a tempting appearance as the young, growing, and coverless Euplectella would present; and what more probable than that, as the tube became perfected and the lid partly made, the crab or crabs might still continue to inhabit it, until the orifice being at last closed up, *Cancer* had to remain a captive. His cast-off shells, like old worn-out garments, would remain sealed up with him, and give the idea that many crabs, instead of one, had there resided.

Crabs do strange things at times, it is true, as we shall probably state in a future communication. But a Venus's Flower-basket, we opine, is a work of too high an order for crustacean constructiveness to grapple with. Sponges, on the other hand, we know to be workers in flint of the very highest order; forming perfect tubes as their spicules, the external covering, like that of the wheat-straw or bamboo cane, being of pure silica, and the lining of a material allied to, if not actually, *keratode*, noticed by Dr. Bowerbank, and by him spoken of as "one of the most elastic and durable animal substances." No combination of material could be more perfect and comparatively indestructible than this, combining, as it does, extreme flexibility with an almost indestructible surface.

The silicious material of which these crystal-like tubes are composed is deposited in a series of concentric layers round a central tubular cavity, which gradually grows less as the spicules arrive at mature growth (*vide* fig. 9, plate 2, which represents the adult or full-grown specimen of *Spongilla fluviatilis* under the microscope, after having been subjected to heat, in order to char the contents of the interior, and so make them more evident).

Fig. 10 shows a portion of a young and immature specimen from *S. lacustrinus*, treated in the same manner in order to show the greater size of the internal cavity and membrane lining it. The researches of Dr. Bowerbank, to whom we are indebted for our microscopic views, go to show that the silica is secreted by a double membrane, the inner surfaces of each alike possessing secretive powers. It will be seen that the Euplectellas are not the only sponges by many which secrete this curious flinty material, at times elaborated in the most beautiful and curious form. Fig. 1 is from *E. aspergillum* (Owen); fig. 2 from a species of *Euplectella* deposited in the museum of the *Jardin des Plantes*, Paris. Fig. 3 is also from *E. aspergillum*: whilst the curiously-hooked double grapnel or anchor form of spicule found in fig. 4 is from an undescribed sponge found on the coast of Sicily. Fig. 5 is from *Halichondria incrustans*; fig. 6 from a spongeous mass found about the base or roots of *E. Cucumer* (Owen); fig. 7, from *Tethia ingalli* (Bowerbank); fig. 8, from *T. robusta*, an Australian sponge.

The form of some of these, especially that of fig. 3 and the two latter, are such as to make us devoutly thankful that these highly useful creatures the sponges confine the manufacture of their spicules to microscopic minuteness, or using them for toilet purposes would be anything but an agreeable operation; but flint is not the only material of which a number of very curiously formed spicules are formed; some sponges are most abundantly furnished with them, but composed of carbonate of lime. It has been, however, observed, that although certain sponges have their surfaces covered with the carbonate of lime material and their interiors literally crammed with silicious spicules, they do not naturally accompany each other, and are not secreted in common. The forms of the sponges of commerce are too well known to need description, and although the life of a sponge may be a matter prosaic in the extreme and utterly devoid of the sensational element, there is much in it to interest the thoughtful observer of nature. Sponges are generated by what are called gemmules or minute atoms of gelatinous substance formed in the interior of the parent. These, as the flowing tide is absorbed and again expelled by the countless orifices or *oscula* which cover the surface, are borne away with it, in association with the thousands of minute atoms from which the nutritious particles or organisms have been strained by the perfectly-formed structure through which they have passed. These tiny sponge-seed are in some species covered with minute cilia or hair-like down; others come forth mere gelatinous atoms, but possessed of rapid locomotive powers, moving here and there with surprising agility and speed. These after a short time become attached to a favourable object; their secretive members are formed, and they remain, unless disturbed, in the position in which they first established themselves.

There are two theories to account for the absorption and expulsion of water by the sponges. That of Dr. Grant favours the belief that the vast numbers of moving and vibratory cilia lining all the canals and cavities and bending their tiny arms like waving corn, thus set up a disposition in the water to flow ever onward through them. Dutrochet, however, attributes it to the law of *endosmose*, a very familiar example of which may be found by filling a common bladder with carbonic acid gas, when, after a short time, the gas, although of much greater weight than atmospheric air, will pass through the pores of the bladder and admit air. We leave the reader the option of selection between these theories, contenting ourselves by repeating that the sponge is fed and nourished by that which the flowing tide brings within the reach of its influence. Unlike the Actinia and some other stationary inhabitants of the deep, it has no arms or tentacles with which to reach forth and secure its prey; therefore it makes of itself a living filter. The sponges, as a rule, are marine productions,

although there are certain kinds found in fresh water. Like many other inhabitants of the deep, the sponges thrive best in the warm genial seas of the tropics, and perhaps in no part of the world are they to be found in greater variety and perfection than among the Australasian islands. The West Indies and the Mediterranean also yield them in considerable quantities; those of commerce being chiefly from the two last-mentioned sources. Our colder seas, although containing their sponges, are by no means rich in them. Dr. Bowerbank enumerates twenty-four genera as being found on the shores of Great Britain. These differ much from the huge *vase* or *chalice*-shaped Pin sponges (*Raphidophora patera*) found in the Indian Ocean. We have seen some of these which would readily hold from three to four gallons in their cup-shaped cavities. Venus's fans (*Gorgonia flabellum*) are there, too, found on the coasts of Bermuda, large enough for the toilet-table of a giantess, and fit companions for the huge sponge goblets above referred to. The sea-feather, or *plume coral*, is found sprouting, like some ocean fern-leaf, from the rock-cave's edges, far down in the clear, tranquil water, amongst the reefs, and we shall see how one of them proved a guide to fortune, station, and nobility. Thus goes the tale, which, unlike many such, has the inestimable advantage of being strictly true.

In the year 1650, one Phipps, a blacksmith of Pemaquid, in New England, was blessed with a son, who was christened William, and who, in very early life, manifested much ingenuity and a passion for ship-building. Very shortly after the term of his apprenticeship to a shipwright had expired, he built a vessel for himself, which he navigated in person, and hearing it reported that a Spanish merchant ship freighted with bullion had sunk in the neighbourhood of the Bahamas, he at once betook himself to the scene of the disaster, and made the most determined but fruitless efforts to recover the lost gold. Treasure-seeking now appears to have become a fixed occupation with Captain Phipps. In the year 1683 we find him employed by the English Government to discover another lost Spanish ship of immense value. This he failed to do, but was convinced that perseverance in the search would be ultimately crowned with success. For five years he was unsuccessful in his applications for funds to renew his investigations, when the Duke of Albemarle, the then Governor of Jamaica, not only believed in the assurances of Captain Phipps, but furnished him with ample means and fitting apparatus for his new expedition. How he reached the scene of his labours; how every lagune and gulf between the reefs was searched in vain, until hope well-nigh vanished, we need not dwell on here. No wreck could be discovered, and he had almost determined to abandon the undertaking in despair, when, after a day of more than ordinary fatigue and anxious exploration amongst the coral rocks, his boat's crew were rowing him slowly and dejectedly back to his ship, one of the sailors directed his attention to a beautiful *sea-feather* growing from the ledge of a sunken rock. "Alas!" said poor Phipps, "there is a sea treasure indeed, I wish I could get it." One of the good-humoured black divers who accompanied him, anxious to oblige his commander, shot rapidly down to the coveted specimen, and just as rapidly returned with it, exclaiming, "*Feather safe, fine feather; but plenty big cannon down where feather live.*" This report, as may be readily imagined, made the sinking heart of poor Phipps leap again. Blackey was despatched to the regions below to have another look, and returned with the glorious news that there were "*plenty big boxes too, and lots of this,*" exhibiting his hands filled with silver. Now the captain was in his true element, and there lay his work cut out for him. He was quite equal to the occasion, for from that deep gulf, far down among the corals and the sponges, where it had lain concealed for more than half a century, he brought to light thirty-two tons of silver bullion, besides large quantities of gold, pearls, and other valuables. We find that Phipps was knighted by James II. He was also appointed sheriff of New England, and took command of a large expeditionary force against the French. We afterwards find him in command of a fleet fitted out to oppose the French in Canada, and subsequently taking part in the border warfare of the period, as a leader of note. And at this point of his career we bid adieu to Sir James Phipps, and the *feather* which led him on to fortune.

Amongst the endless objects of interest which each hour passed on the sea brings to notice, few are more curious than the family of *Medusidæ*:—

> "There's not a gem
> Wrought by man's art to be compared to them;
> Soft, brilliant, tender, through the wave they glow,
> And make the moonbeams brighter where they flow."

The rippling waves as they divide beneath the good ship's cutwater, the dipped oar-blade, and the fisher's net, glisten in the moonlight like molten metal, and the boat's track is marked out as in liquid fire. We are passing through myriads of *Noctiluca miliaris*, members of the order we are glancing at. From the most minute and microscopic size to the most gigantic dimensions do these strange organisms exist, and there appears no known limit to the vast size to which they can grow in the tropic seas. The ponderous jelly-like masses at times cast by storms on our coasts, or left by the receding tide on our beaches, are as mere pigmies to the huge creatures of this class found in the Indian seas; and if northern latitudes were as congenial to their rapid and prodigious development as the warmer seas of the East, the *kraken* might not prove as great a myth as has been generally supposed. Thus Mr. Telfair writes of one he saw washed on shore near Bombay, in 1819, which, as he says, must have weighed many tons:—"I went to see it when the gale had subsided, which was not for three days after its being cast upon the sand; but it had already become offensive, and I could not distinguish any shape. The sea had thrown it high above the reach of the tide, and I instructed the fisher-

men, who lived in the immediate neighbourhood, to watch its decay, and if any osseous or cartilaginous part remained, it might be preserved; it rotted, however, entirely, and left no remains. It could not be less than *nine months* before it entirely disappeared, and the travellers were obliged to change the direction of the road for nearly a quarter of a mile, to avoid the offensive and sickening stench which proceeded from it." Vast fields of medusæ are at times encountered at sea, extending for miles in every direction.

We have had an opportunity of sailing through some of these vast assemblies, and examining them. On one occasion, in the Indian Ocean, we encountered incalculable numbers of the red species, the "*Brit*" or "*Bret*" of the whalers. Nearly the whole of one day was occupied in passing through fields of these curious organisms, whilst the whales, who were following up and feeding on the floating millions, came up to blow in all directions around our ship, tossed their flukes in the air, and resumed their banquet, regardless of our close proximity.

Dr. Scoresby has made a curious calculation in order to show the innumerable number of medusæ at times found inhabiting comparatively limited spaces of ocean. He says, when speaking of a specimen of olive-green sea he was engaged in examining:—"The number of medusæ in the olive-green sea was found to be immense. They were about one-fourth of an inch asunder; in this proportion, a cubic inch of water must contain 64; a cubic foot, 110,592; a cubic fathom, 23,887,872; and a cubical mile about 23,888,000,000,000,000. From soundings made in the situation where these animals were found, it is probable the sea is upwards of a mile in depth; but whether these substances occupy the whole depth is uncertain. Provided, however, the depth to which they extend be but 250 fathoms, the above immense number of one species may occur in a space of two miles square. It may give a little conception of the amount of medusæ in this extent, if we calculate the length of time that would be required, with a certain number of persons for counting this number: allowing that one person could count a million in seven days, which is barely possible, it would have required that 80,000 persons should have started at the creation of the world, to complete the enumeration at the present time.

Some species of these strange organisms, as the *Acalephæ*, or sea-nettles, possess the power of stinging severely those who incautiously handle them. Some are remarkable for the length and beauty of their long twining tendrils and delicate crystalline fishing-lines. "*The Portuguese man-of-war*," in all her grace and loveliness, lures us on to voyage with, and gossip about, her, but the task, although a pleasant one, must be postponed until our next expedition to the gardens and pleasure-grounds of the sea.

REVIEWS.

India, Ancient and Modern. Delineated in a Series of Water-colour Drawings made on the Spot by William Simpson. The literary portion of the work by J. W. Kaye. Day & Son (Limited), Gate-street, Lincoln's Inn Fields.

TO the student of the beautiful the first views of India must be full of delight. He may imagine himself to be transported to some realm of enchantment, as he finds himself, for the first time, among the vivid verdure of the fantastic tropical foliage, or opposite the graceful dome and slender minarets of some fanciful Eastern edifice. Both nature and art are here adorned in fashions, charming in themselves, and interesting from the completeness with which they differ from those of the Western world. The broad-leaved plantains, with their clusters of yellow fruit, the fan-like palms, the tall cocoa-nut trees, the feathery bamboos, the wide-spreading banyans, almost resembling the Druidical oaks of old England, with their dark twisted tendrils drooping, like bewitched rain-drops, to the ground,—the tamarinds, guavas, and hosts of other trees, present to him Dame Nature in a dress totally new to him; unless he has studied the specimens in the palm-house in Kew Gardens, or in that which was the pleasant tropical compartment of the Crystal Palace. Then, as he comes upon a little temple nestling in a grove of trees, from whence fly bright green parrots scared at his intrusion; or approaches the grander structures of Eastern art, with their airy forms and delicate embellishments, or massive proportions and quaint ornamentation, he will understand how widely the fancies of man's mind are varied by local influences. As he penetrates into the narrow streets and bazaars of the towns, under the carved balconies and fretted work of the flat-roofed houses, he will not perceive the slightest vestige of European manners. Every sight, sound, and smell will be essentially the property of the East; and even the method of sitting adopted by the natives will appear particularly strange to him, as they neither sit upon chairs like ourselves, nor cross-legged like the Turks, but squat upon their ankles after the fashion of monkeys. And it is decidedly mirth-inspiring to the new arrival, to see two of them thus sitting together in one of the low stalls of a bazaar and chatting volubly, while they negotiate the sale of grain, or of an earthenware pot or shawl; or while the one, in his capacity of barber, is occupied in shaving the head of the other, leaving only the tuft of hair by which the angel is eventually to convey him to Paradise.

The crowds in the streets will be in numerous and picturesque varieties of Eastern costume. Some will be attired in tawdry silks and brocades; more will be dressed in white or coloured cotton, with turbans and red slippers; more will be black and naked except a scanty covering round the waist. Then there will be Baboos, or Hindoo gentlemen, frequently employed as scribes and the like, in long white robes, with their heads only covered by their own short, curly black hair, and their bare dusky legs and feet in European patent leather shoes; Parsees with their eccentric chimney-pot-resembling head-pieces; women with rings through their noses and heavy silver ornaments on their arms and ankles, dressed in a style

which renders them like perambulating bundles of old window-curtains; none but women of the lowest class, and those generally old and ugly, being permitted to be seen abroad. Then, perhaps, he may meet a cavalier in a combination of snowy-white and gay or gorgeous garments, mounted on a saddle like those used in an English circus for the daring feats of horsemanship, on a white horse with his nose, hoofs, mane, and tail painted pink; or a native conveyance resembling a gig with an awning, covered with bells and jingling ornaments. Rude carts, drawn by bullocks, will nearly block up the narrow thoroughfare, and the *tout ensemble* of the scene will be completed by the creaking of the ungreased cart-wheels, the incessant beating of tom-toms, ringing of bells, and Babel of voices; with odours of burnt wood, rancid oil, and stagnant ditches. The romances of the "Arabian Nights' Entertainments" will be recalled to his mind, and afford him a glimpse of the inner life of this new world presented to his notice, and he may rejoice in being perfectly rid, for a time, of black hats and crinoline.

Even if, however, he seeks the European habitations, he will still find much to astonish him. He will behold well-appointed English carriages driven by native coachmen in Eastern costumes; and, up country, the European bungalows, with their high-thatched roofs, painted clay walls, and verandas are sufficiently characteristic. Indeed, existence would be impossible in such a climate without considerable modification of our English manner of life. At Meerut, for instance, which is a large station in the North-west provinces of Bengal, at nearly a thousand miles' distance from Calcutta, for eight months in the year the sun renders imprisonment in the house compulsory from about seven in the morning till six in the evening. It is possible, certainly, to struggle through the scorching heat, with a pith hat, two or three inches thick, upon the head, and an umbrella; and, under the influence of strong excitement, men have been known to brave the effects of the sun with impunity; but confinement to the house must be the normal condition. Here, in the season of the hot winds, the air comes from the arid deserts of Caubul, like the blast of a coke-furnace when the door is opened, at times laden with storms of hot and penetrating sand. But the window-sashes are removed and a species of mats called khuskus-tatties substituted for them; through which, kept constantly damped by water thrown over them by the bibisti, or water-carrier, from his pig-skin, the air blows into the house cool and fresh. When rains succeed, for a brief interval, the air is deliciously cool and fragrant. The parched vegetation springs up to luxuriance in a single night; but myriads of reptiles and insects likewise rejoice in the change. Black ants half an inch long, with curly tails, overrun the bath-room; another species of ants take wing and, in numbers, terminate a short existence by immolating themselves in the candles or soup at dinner. Centipedes drop from the roof of the veranda, snakes make morning calls, and nature generally awakes to diverse existence, in which the Briton appears in the light of an intruder into a domain the inhabitants of which exhibit their animosity by tickling him in the shape of flies, stinging him as mosquitoes, and alarming him as venomous reptiles.

A lady in England would probably make strenuous objections to the presence of little green lizards and bloated spiders, with hairy legs, on the walls of her drawing-room; but in India, their society is welcomed for the havoc they commit among the mosquitoes and flies. The almost imperceptible white ants, as is, of course, well known, will eat anything, from boots to lath and plaster; and in an old bungalow inhabited by the writer of this article, they actually excavated their way up a door-post to the height of about six feet, and then cut through the woodwork and constructed a kind of hanging-palace of earth, some three inches in length, and one in thickness, in which they deposited their king and queen, two fat white grubs, of half an inch in length. Then there is the notorious musk rat, which, by simply running over a securely corked and sealing-waxed bottle of wine, can impart to it such a disgusting flavour of musk as to ruin it entirely. Add to all this insect and vermin life, the packs of ill-bred and mangy curs which infest the villages, and the multitudes of hawks, vultures, and carrion birds of divers kind, which swarm in the neighbourhood of the abodes of men, and kindly supply the want of drainage, and it may be conceived that nature in India is exceedingly animated. To the hot winds succeed long months during which the air is so stagnant that it seems scarcely possible to breathe, unless it is put in motion by the punkah swaying from the ceiling; when even an ordinary sheet is too heavy a covering as slumber is courted at night, and loose trousers and shirt of the lightest muslin have to be worn instead. But at length the cool weather comes, when with a puggeree, or cloth bound like a turban round the wideawake hat, the sunbeams can be endured, and Anglo-India arises from summer torpor to balls, races, theatricals, and dinner parties. Then may the traveller betake himself to view those grand old edifices, which Moguls and Rajahs have left to attest their magnificence; and cities such as Benares, Delhi, and Lahore, where palaces and temples for the living and shrines for the dead vie with one another in costliness and beauty.

The scenes of Bible history will be vividly brought to his recollection as he journeys through the country. The rude agricultural implements, the yokes of oxen, the wells from which water is drawn in leathern buckets by the hand (pumps as well as drains being unknown luxuries in India), the women on the housetops, the process of two women grinding at the mill, which may be constantly observed in all parts of India, and numerous other customs, are wonderfully suggestive of those pictures with which we have been familiar from childhood, but which appear to be drawn from life so foreign to our own habits. Much of the scenery is extremely picturesque. Sometimes the road traverses richly-wooded tracts almost resembling English parks: then it crosses vast plains, covered with the white rice-harvest or fields of corn, sugar-canes, or tobacco, relieved by villages embowered in groves of palm-trees. Here the men may be seen smoking their hubblebubbles, or rude hookahs, as they loll lazily upon their couches at the doors of their mud huts, or perform their ablutions by throwing water over their swarthy carcasses from brass pots, while their little naked children tumble about in the dust of the road, or stare at the stranger with their great, bright, black eyes. Then, perhaps, we enter the shades of some gloomy forest, whose impenetrable depths harbour tigers, wild boars, jackals, porcupines, monkeys, and various species of deadly serpents, and, again emerging upon open plains, come to the banks of the sacred Ganges, or some tributary stream, where the alligators lie basking in the sun on the yellow sand-banks, and in which to bathe when living, or to be cast when dead, is the most important article of the religious practice of millions. But the old method of travelling through the country by dâk gharrie, or one-horse post-chaise, is becoming as much an affair of the past as the stage-coaches and post-chaises of England. The dâk bungalows, too, or resting-places erected by Government to supply the place of inns, will probably fall into more desuetude than our own old post-houses; for the last can still carry on an impoverished existence by the aid of market-days and commercial travelling. The railways that now run throughout the length and breadth of British India will convey the traveller, reclining too luxuriously to take more than the most fleeting glances at the panorama of varied scenery he is so rapidly passing, from one salient point to another. In fact, we believe that tourists will soon be found to scamper through the more strikingly interesting cities of Hindostan, as through those of the Continent, doing the lions thereof with similar ardour, and contenting themselves with such views of the rest of the country as can be obtained from the window of a first-class railway carriage, when they are not absorbed in a newspaper or book. Now enjoying fresh sensations, now bewailing novel miseries, they will hurry from the holy Benares with its golden temple and celebrated ghauts, or landing-places, on the banks of the Ganges, thronged by their bathing, praying, sleeping, or gossiping crowds, to Cawnpore, with its marble monument over the well of terrible memories; from Agra, with its gem-bedizened Taj Mahal, to Delhi, with its sublime ruins and present grandeur; from Lahore, with its "mausoleums and shrines, magnificent and numberless,

where death seemed to share equal honours with heaven," to Cashmere.

"Who has not heard of the Vale of Cashmere,
With its roses the brightest that earth ever gave,
Its temples, and grottos, and fountains as clear
As the love-lighted eyes that hang over their wave?
Oh! to see it at sunset, when warm o'er the lake,
Its splendour at parting a summer eve throws."

But to pursue the path travelled by Moore's sweet "Lalla Rookh," on her romantic love-errand, it is necessary to get far beyond the range of English mechanical and engineering science. Rugged mountain-passes must be crossed by hard, old-fashioned means of travelling, before the loveliest valley in the world can be reached. But, really, it would scarcely be astonishing, within the next few years, to see the announcement of an excursion Peninsular and Oriental boat, in connection with the railway, dâk gharrie, and palkee dâk, or journeying by palanquin, to Cashmere and back, proceeding thither by Calcutta, stopping at Ceylon for prawn curry and cocoa-nut chutney, and returning down the Indus to Kurrachee.

Meanwhile, however, we are happy in being able to recommend to those of our readers who do not possess the opportunity, or the ambition, to extend their tours so far, yet are interested in this great, glittering Eastern realm of ours, a means by which they may most agreeably gratify their very laudable curiosity. Mr. William Simpson, who recently exhibited at the German gallery, his admirable collection of water-colour drawings of India, Thibet, and Cashmere, is about to publish them, reproduced by the chromo-lithographic process, with an account of the country under its historical, religious, and other aspects; and we cannot conceive anything calculated to give a more complete idea of the scenery and life of our Asiatic dominions than these pictures. A specimen of the forty-two monthly parts of which the work will consist, is now before us, containing six fac-simile drawings, of the full size of the originals, and preserving their brilliance of colouring. We have the "Chitpore Road, Calcutta," a very good specimen of the native part of the town, and affording an accurate notion of Indian customs, from the artistic skill with which characteristic details have been inserted in the picture: such as the man in the corner cleaning his teeth with a bit of stick, and the illustration of the manner in which mothers carry their children. Then we have the "Lanka Cave, Ellora," one of the most artistic of all the excavated works of the Brahmins; and the "Summer Palace on the Lake of Oodeypore," a beautiful structure of white marble, picturesquely situated on an island, to which the Rana goes in state, accompanied by his hareem, in an enclosed barge: cotton-boats on the Ganges, and two scenes of Cashmere life, occupy the remaining places. The style of the accompanying literary portion of the undertaking, by Mr. J. W. Kaye, the accomplished author of "Christianity in India," and the official editor of the Canning, Clyde, and other papers bearing upon the Indian Mutiny, is in every way worthy of the really exquisite sketches it is designed to illustrate. The illuminated dedication to Her Majesty, printed in many colours from an oriental design of rare elegance composed by Mr. Owen Jones, is not the least remarkable feature of the work. Mr. Simpson remained for three years in India, during which he visited nearly every place of interest in the great continent, from Cape Comorin to Peshawur; and some of the picturesque regions beyond the British frontier, as Cashmere and Thibet, as we were informed in the publisher's preface to the descriptive catalogue of his exhibition. He enjoyed peculiar advantages for seeing the country under its most favourable aspects, as he was invited by Lord Canning to join the vice regal camp on the triumphal march through the scenes of the defeated rebellion; during which tour numerous great durbars, or levées of Indian princes, were held, some of which are depicted among his drawings. Altogether, we think that it would be impossible to find a country more adapted for the exercise of the artist's taste and skill, from the beauty and variety of its scenes, both of nature and art; or an artist more capable of giving a correct and pleasing impression of the scenes which he has made it his occupation to portray.

A Fox's Tale, a Sketch of the Hunting-field. Day and Son (Limited) London.

THIS is a most worthy pendant, by the same author, to "The Autobiography of a Salmon," of which we expressed such unqualified approval in our last. "The Fox's Tale" is an unaffected narrative "by one of themselves," of the joys and sorrows of the Vulpine race, interspersed with sketches of the characters and characteristics of a hunt and hunting-field, but with no tinge of the fast or trace of slang to mar its agreeable flavour. It would seem impossible to have compressed into less than one hundred pages more or prettier cabinet studies of landscape and figure than we have found here. The life of a vixen and her cubs in haystack and gorse, the gentleman farmer, the master of hounds, the huntsman and his *aides*, the field, and the meet, are all sketched with singular brevity and precision, and "the Run," with its every incident, is so felicitous that we defy any lover of the country and the sport to lay it down unfinished. Poor Renard, indeed, tells his story so well as to enlist our sympathy, and the reader is excellently well pleased with the dramatic artifice—albeit a true story—by which the editor avoids so unpleasant a catastrophe as the fall of the curtain over a scene of blood.

Manuel Pratique et Raisonné de l'Amateur de Tableaux. By Dr. Lachaise. Paris. 18mo.

A VERY useful work by a well-known art critic. The manual, which contains a large amount of information in a small compass, includes an excellent chapter on the history of art; valuable hints on the distinctive characteristics of all the schools and of the principal masters; on the means of judging whether a picture is really an original, an imitation, or a copy, and whether it remains intact or has been submitted to the tender or other mercies of the restorers; on the perils of public and private sales, and the laws and regulations relating thereto; and on the preservation of pictures, and the precautions necessary to be observed in their restoration.

Dr. Lachaise naturally devotes a considerable part of this work to the French school, and a short extract from his observations under that head will give an idea of his views relative to the painters of the nineteenth century:—

"In the eighteenth century French art went through three marked phases. The first was that of gallantry or courtly politeness, personified in Watteau, and which was endowed by a veritably official character by the creation, in the Academy of the Fine Arts itself, of a section of painting entitled *Fêtes galantes*. The second, quite as distinctly defined as the first, was the reign of pure sensuality, and had for its leader François Boucher. The third, still marked in the corner, as it were, with the same stamp, that of love, accommodated itself to the feeling of the time, and exhibited, in the works of Fragonard, a tendency towards sentiment. Greuze and Prud'hon, without forming a school, took up the moral and the poetic side, and remain the masters of the transition. In truth, the poetic transformation through which France was then passing, and which culminated in 1789, occupied all minds and demanded of art something more than the frivolities with which the preceding century was satisfied.

"From the epoch we have named, painting seemed to have no other mission but that of inspiring the masses with feelings of abnegation and disinterestedness, with the sentiment of liberty and devotion to their country. The Oath of the Horatii, Belisarius asking alms, and the Death of the Sons of Brutus, placed David at the head of those who could comprehend the powerful aid which painting could give to new ideas, and made him the chief of a school which had great *éclat*, but which did not sufficiently understand its own origin to see that, in matters of art as in politics, to

destroy is not to create, or to escape a despotic spirit which rendered it hostile to whatever was produced beyond its own breast. This school, in fact, had scarcely received the public sanction, and proved that art was in a bad road, when it felt itself called upon to regenerate art, treated with disdain all its predecessors, and carried fatuity so far as not only to give insulting nicknames to many artists then held in esteem, but to carry one of its own adepts, Drouais, in triumph to the Pantheon, forgetting that the Tarpeian Rock is not far from the Capitol.

"Thus the public mind no sooner recovered from the astonishment created by this school, than it began to doubt if art consisted in nothing more than the good drawing of a figure; if the models of the atelier, covered with Greek and Roman tunics, and wearing sandals borrowed from the opera, really presented a fair representation of the antique; if stiff, outstretched arms could really assume any other position—in fact there were not wanting opponents with the boldness to proclaim that the respect professed by David and his school for the antique was simply a mannerism under which they hid the barrenness of their imagination and the uncertainty of their object.

"The doubt once admitted, was soon changed to certainty, and the law of retaliation was so rigorously applied to the school in question, that the very expressions it had used against its predecessors were now turned against itself. Does the school of David merit the neglect, nay the disdain, with which it is treated at the present day? No! a thousand times, No! In the first place there was reason for its existence, in order to rid the domain of art of frivolity, prettiness, and conventionality, and it did its work in a satisfactory manner; only, it persisted in the means when they were no longer necessary. Further, if in attempting to reduce art to absolute theories, it deprived it of those charms which it derives from imagination, it also presented its wanderings, and showed that without certain principles art would be but an allusion or pure fantasy. The school may, moreover, quote, in opposition to its detractors, names before which all men of sense must bow, and historical pages worthy of the imperishable glories which they are destined to celebrate. If all the works produced by the pencils of these chiefs leave something to be desired, it is equally incontestable that in the greater part of them many of the most essential conditions of art are exhibited in a high degree. . . . Let us then render justice to this school; let us admit that it too often sacrificed spirit for theory; that in order to reach the mind of the masses it contented itself with drawing correctly, even to hardness; that it did not sufficiently occupy itself either with the seductions of colour or the effects of chiaroscuro; that it therefore often remained formal and cold; but let us admit that it possessed great skill in composition, a well-expressed intention and a constant effort to raise itself to the level of the brilliant period which it had to traverse, great care with respect to details, and a practical skill which enabled it to triumph over the difficulties presented by given official subjects and the strange costumes of the period."

Every one will not of course agree, as we do generally, with the above appreciation of the school of David, but all must see that Dr. Lachaise has studied his subject with care and, we may add, success.

A chapter at the end of the volume will be highly acceptable to connoisseurs; it contains a list of the most important works of art in all languages, to be consulted, not only on the subject of painting in general, but on that of each school taken separately.

OLLA PODRIDA.

THE PICTURES FOR THE ACADEMY are beginning to assume shape, and some of them are already being much talked about. Most notable is Mr. Frith's, which will be one of the great, if not the greatest picture of the season; the subject is "Evelyn visiting Whitehall on a Sunday, a few days before the death of Charles the Second," and shocked at the dissolute exhibition of manners by which the king is surrounded. Mr. Elmore will exhibit the first-fruits of his visit to the East last winter. It will be a telling subject, and will be familiar to all Scripture readers. Although 'tis old as the East itself, and still daily to be seen, it is strange that none of our many artists, who now travel so far for subjects, have ever treated it. John Phillip is recovered from his severe illness, and has three pictures on hand for the Academy. O'Neil has two fine subjects, one an incident in the life of Luther, and the other an incident connected with Titian. Leighton has four contributions getting ready; and Prinsep will have a Venetian interior. John Burgess is preparing a successor to his "Bravo Toro" of last year, by which his established repute will not suffer.

In the Water-Colour Exhibition, Mr. Louis Haghe will have a very fine picture, an interior of a monastery at Rome.

NEW MUSIC.—We have received the following songs and pieces from Messrs. Boosey & Co.: "The Express Quadrille," by Charles Coote; "La Vie Parisienne Valse, sur l'Opéra d'Offenbach," par C. H. R. Marriott; "La Vie Parisienne Quadrille," by the same arranger; "Marie Valse," par S. Hugh Baillie (Colonel Royal Horse Guards); "Ralouka, Marche Turque," composée par Blumenthal; "Fantasie sur la Prière et Chasse du Freischütz," par Réné Favarger; "Riding thro' the Broom," "Strangers yet," and "Only a Lock of Hair," by Claribel; "She is not Fair to outward View," and "Thou art lost to me," by Arthur Sullivan; "Come Home, Father" (Christy Minstrel ballad); "Douglas, Douglas, tender and true," by Bernard Althaus; "The Bells of Aberdovey," words and accompaniment by George Linley; and "Gathered Treasures," words by Tom Hood, music by Elizabeth Philp.

The dance music of M. Marriott is within the means of comparative beginners at the pianoforte. There are no quadrilles now of the Henri Herz and Dos Santos type, and pianists need not anticipate finding their capabilities very severely tried in quadrilles, valses, &c. Mr. C. Coote's descriptive quadrille is, in plain terms, easy to play, and good to dance to. Some years ago M. Réné Favarger's fantasia on "Oberon" at once established his credit as an arranger of the "brilliant, but not difficult" order. This new specimen of his talent now before us is a very favourable instance of what may be done to secure a brilliant effect without putting serious difficulties in the way. M. Blumenthal's quaint and original march may be recommended to all classes of pianists, and is by no means difficult. Amongst the younger English musicians Mr. Arthur Sullivan holds a very high position. Latterly he has become more widely known as a song-writer, and we can pay him no higher compliment than to predict that many of his compositions will live in the future when other commonplace productions are entirely forgotten. "Thou are lost to me" might be sung by a contralto or baritone. Its companion is in A flat, and ranges to the G above the line.

"Strangers yet" is in E flat, and in all probability will rival in popularity some of Claribel's most famous songs. It is signed by Madame Sainton-Dolby, and is a remarkable instance of the steady increase in the market price of these things. Four shillings is demanded for Lord Houghton's tender and graceful words, and the fair Claribel's setting thereof. "Only a Lock of Hair" is expressive and flowing in the melody, and is adapted for a tenor voice. The song is in B flat, and ranges upward to A, first line above.

Messrs. Robert Cocks & Co. have issued the under-

mentioned publications:—"Rosabella Valse," by Adam Wright; "Bon Soir Galop," by Fred. Godfrey; "Blossoms of Thought," by Robert William Pearse; "The Wishing Cap," a song by W. T. Wrighton; and "Sing me that song again," a serenade by Guglielmo. "Blossoms of Thought" are original preludes for the pianoforte, and some of them indicate the composer to be gifted with real musical feelings. There is a certain originality about the greater number of these studies. In Band-master Godfrey's galop, a very short song is introduced, the melody being founded on the "Coldstream Guard's Valse." The galop, of its class, is good. Mr. Wrighton can write expressive and plaintive ballads; but he is not so happy in treating the "Wishing Cap" description of subject. The words are by Charles Mackay.

THE JAPANESE JUGGLERS.—Novelty, though sometimes very startling, is not always genuine; but in the case of the Japanese troupe, now flying paper butterflies and spinning tops at St. Martin's Hall, it is eminently so. The party of middle-aged men, young women, and children, from the country of the Tycoon, twelve in all, began enlightening the Saxons, at a private performance, on February 9th. Asi-Kitchi-San is the artist and the gentleman of the party, and his butterfly trick must be seen to be believed. The Japanese manner is easy, and almost carelessly self-possessed, though undisfigured by any show of vulgar confidence. Native dignity, and a calm consciousness of excellence in some branches of their art, the males of the company certainly seem to possess. Gaensee, "top-spinner to the Tycoon," and Asi-Kitchi-San are especially intelligent-looking. "Beauty is but skin deep," and hardly that, with the actresses of Japan; but then in England we can ensure the finest complexions in the world; for if the white and pink of nature are not forthcoming, the artistic substitutes are to be procured in Bond Street. The Japanese ladies are sallow, and, in comparison with their masculine companions, sleepy-looking. To this rule there is one exception, namely, a young girl with an almost European complexion. After twelve simultaneous salaams from the entire and richly-dressed party, this fair-skinned maiden puts on a head-dress something like an exaggerated mitre, and dances after the rather ungainly fashion of her native land. There is nothing of the languid, dreamy, and poetical "Almée" spirit in this performance; but, on the contrary, a decided angularity of movement. The peculiarity of the dresses is their extraordinary richness and roominess; and the neatest figure in Japan is apparently doomed to be encased in habiliments which would fit a Celestial Chang.

The Japanese bring their own music, and lamentations will not be general when they take it back again, for it is very irritating to the susceptible European nerves. Tone seems no particular object; time but imperfectly understood; and tune not at all. The very thin strings of a distressing kind of banjo are sometimes twanged by the ladies' fingers, and sometimes worried by a wooden implement, neither a miniature cricket-bat nor a spoon, but something of both. There is also a small toneless drum, and a drum major, who divides his time between this excruciating instrument and an invention in the shape of a vivandière's spirit-keg. He taps both with two sticks, but extracts nothing like sweet sounds from either. A running fire of the songs of Japan accompanies the various performances, and one of these vague effusions is given with most amusing seriousness by the youngest of the three children. Gaensee's top-spinning is a wonderful exhibition of its kind. He throws the tops in the air and catches them, still spinning, on a cane; "sends them to sleep," as Young England says, now on the edge of a sword, and now on the top of a fan, and, in point of fact, does precisely what he pleases with them.

Both conjurers and acrobats are, as was anticipated, clever. Two of the latter, who are attached to this troupe, climb and clamber about a light bamboo scaffolding in St. Martin's Hall, after the manner of the late chimpanzee at the Crystal Palace; and one of them, owing to the accidental breaking of a cane from which he was hanging, was for a few moments in great danger. Bamboos, however, are tough and fibrous, and the courage and presence of mind, fortunately belonging to the Japanese as well as to the English fraternity, saved the performer from death, and the spectators from a sad shock.

Asi-Kitchi-San's "butterfly trick" is the crowning glory of this remarkable entertainment. He tears a small piece of rice-paper into the shape of a little white butterfly, and with the current of air from a fan keeps it moving in the exact imitation of the insect. He talks to it in evidently persuasive and facetious language, and at length it quietly settles on the top of another fan carried in the left hand. The artist,—for a thing of this kind is artistic in the highest degree,—manages two with equal success; and anything more delicate, pretty, and really marvellous as an imitation of nature, it is impossible to conceive.

HERR ERNST SCHULZ, A PHYSIOGNOMIST and a very remarkable man, gave a lecture, or private performance, on the 29th of last November, to an invited few at the Egyptian Hall. He has since been lost to sight, but under the suggestive title, "Masks and Faces," his entertainment is now heralded to the London public. We have a few broad, abstract, ideas of physiognomy, and know that raised eyebrows express surprise, that when lowered they help to indicate anger, and that a curled lip implies scorn and contempt. It is, however, reserved for a philosophical mind, and extraordinarily mobile features, such as Ernst Schulz possesses, to demonstrate how truthfully human nature and temperament may be illustrated by one man. Grimace is despised, and caricature quietly put on one side by this student of humanity, who creates effects which could hardly be credited, and never descends to violence or vulgarity. Ernst Schulz presses down his hair, turns his collar down, and settles his marvellously plastic features into a representation of semi-imbecility absolutely startling from its simple truth and fidelity. He does not show us a maundering idiot, which picture to a certain extent must always be repulsive, but he brings us face to face with a simpering fool we all immediately recognize as a common object in every-day-life. The lecturer's facial illustration of the "phlegmatic" temperament, the purse-proud man, and the "pious person" are living photographs of the highest artistic excellence. Herr Schulz, in the second part of his lecture, treated of the "Lights and Shadows of Character betrayed in the Beard," and here made use of some peculiarly cunning arrangement by which he threw a shadow on his face of the exact shape and size required for the "military moustache," the "millionaire's whiskers," or the "diabolical beard." The portrait album was rather a mistake, inasmuch as the bodies of the subjects were badly drawn and painted. Herr Schulz, of course, put his head through the canvass, and perhaps he treated the "working man" somewhat unkindly. By the assistance of dresses and the mysteriously arranged light, he finished with a series of typical portraits. A Tyrolese, an American Indian, and a specimen of Bosjesman female beauty, were included in this section of a highly intellectual entertainment. He sits at a table, and manages the complexion, whiskers, and beard-imitating apparatus with unerring certainty and without assistance. It may be some artful combination of mirrors and reflectors that enables him to throw the light, flesh-tint, beard, and moustache on his face at the same instant. Whatever may be his means at command, the result is extraordinary, and Herr Ernst Schulz's entertainment is a thing to be seen.

NATURE AND ART

April 1, 1867.

THE FOUNDATIONS OF THE EARTH.

By J. Carpenter, F.R.A.S., of the Royal Observatory, Greenwich.

THE Mosaic record of the Creation tells of the period when "the earth was without form and void." Without this authoritative testimony, the evidence of our senses alone would lead us to the conviction that the materials of which the world is composed must have existed, at some time, in a form different from that in which we now find them. In the smaller phenomena of nature we are for ever witnessing a constant succession of changes taking place—a perpetual mutation in form and nature occurring in the same material substances. All is transitory, nothing is finite. Everything that *is* has already existed in some other form before, and will exist in yet another form again. The operations of natural laws vary quantitatively, but not qualitatively; and if the law of transformation governs the lesser works of the Creator it governs the greater also: the earth, like every object that exists upon it, must have had an origin from some simpler and more elementary form of matter. Guided by the light of modern science, let us endeavour to discover what that origin was.

Our earth is but a small and insignificant member of a vast planetary system, all the components of which must have had a common or a contemporaneous origin: to inquire into the origin of the earth we must embrace in our inquiry the formation of the whole solar system. The first physicist who attempted a solution of this question was the celebrated French naturalist, Buffon: although several romantic theories for the formation of the earth alone had been put forth by the fantastic cosmogonists, Burnet, Whiston, and Woodward. These, however, scarcely need mention here: as much as is worth knowing concerning them is to be found in popular shape in Goldsmith's "History of the Earth and Animated Nature." Buffon's hypothesis supposed that the sun existed at some period of remote antiquity without any attendant planets, and that a comet, dashing obliquely upon it, ploughed up and drove off a portion of the solar matter sufficient in bulk to form the various planets of the system: that the earth and planets at the time of their quitting the sun were in a liquid, burning state, and that by degrees they cooled; while in their liquid state assuming their spherical form. But this hypothesis is in many respects untenable; principally, because it assumes the sun to be already existent, whereas any explanation of the origin of the solar system must include that of the principal member; secondly, because it is insufficient to explain the mechanical conditions of the system. The theory, however, deserves notice, as having induced inquiry into one more probable.

Kepler, and others among the early astronomers, imagined that the sun and stars—the suns of distant worlds—had been formed by the condensation of celestial vapours: Kepler basing his supposition upon the phenomena of the sudden bursting forth of new stars upon the margin of the milky way—the only celestial appearance then known which seemed to be of vapoury nature. But when the telescope fathomed the depths of celestial space and revealed to our knowledge the existence of those mysterious patches of hazy luminosity that received the name of *nebulæ*, strong evidence was afforded of the possible validity of the old astronomer's supposition. It may be necessary to inform those who are uninitiated in the details of celestial nature that these nebulæ are faint patches of diffused light which abound in great numbers all over the heavens; assuming an infinite variety of form, and looking like little wisps or spots of thin cloud, or fog, in the field of the telescope. The earliest telescopes served to discover but a very few of them: it was only when the immense and powerful instruments of the elder Herschel swept every nook and corner, as it were, of the heavens with their stupendous eyes, that their exceeding abundance came to be recognised. This giant among observers found no less than 2,500 of such nebulæ, and yet he overlooked the thousands that have been detected by various subsequent astronomers.

During the earlier course of his nebular researches, Sir William Herschel appears to have inclined to the opinion that all nebulæ were in reality remote clusters of stars, so remote and so

thickly clustered as to affect the eye only by their united lustre—just as a handful of sand thrown on the floor would look only like a dusky patch to an eye so distant that it could not perceive the individual grains. Some of them were clearly resolvable into their component stars with high telescopic power, and it was thought that a *sufficient* increase of optical power would resolve the whole of them. But as his familiarity with their features increased, he was led to an opinion analogous to that of some of the older astronomers: that was, that they were immense heaps of some vapoury or elementary matter out of which stars were, in the course of countless ages, formed by a process of condensation, such as the attraction of one particle by another would produce. With this theory in his mind he was led to classify the various descriptions of nebulæ that had passed in review before him, according to a plan or scheme of progressive development: sorting together into one grade all those of a certain extent of diffusion, and those of a more condensed nature into another. His first class included the extensively diffused and shapeless nebulosities that are faintly discernible and traceable over large areas of celestial space; his second embraced those that exhibited a stage a little more approaching a regular form; and so on through about thirty classes, the latter of which included those in which the condensation had proceeded so far as to give them the appearance of planets or nebulous stars. Between the descriptions of the members of one class and those of another, there was not a greater difference than—to quote his own words—"there would be in an annual description of the human figure were it given from the birth of a child till he comes to be a man in his prime." He further adds:—"the total dissimilitude between the appearance of a diffusion of the nebulous matter and of a star, is so striking, that an idea o the conversion of the one into the other can hardly occur to any one who has not before him the result of the critical examination of the nebulous system which has been displayed in this (his) paper. The end I have had in view, by arranging my observations in the order in which they have been placed, has been to show, that the above-mentioned extremes may be connected by such nearly allied intermediate steps as will make it highly probable that every succeeding state of the nebulous matter is the result of the action of gravitation upon it, while in a foregoing one, and by such steps the successive condensation of it has been brought up to the planetary condition."

The observations of Herschel paved the way for the speculations of the illustrious Laplace. Herschel, from the evidence afforded by his observations, explained how, by the mere action of gravitation, a chaotic mass of primordial matter was probably transformed into a body of definite form and dimensions, though still of a somewhat diffused and nebulous nature: Laplace demonstrated how the known laws of gravitation could, from such a planetary mass of diffused matter, produce a system of bodies revolving about a great central one, such as we have an example of in our solar system. This theory has ever since been known as Laplace's *nebular hypothesis*. When its illustrious author put forth his conjectures he did so, to use his own words, "with the deference that ought to inspire everything that is not a result of observation and calculation;" at the same time he expressed his conviction that the striking coincidences of all the planetary phenomena with the conditions of his hypothesis, gave his conjectures a probability strongly approaching certitude.

It is not easy to give an intelligible description of such an intricate subject as the nebular hypothesis within the limited confines of a popular article; nor is it necessary: those who wish to pursue it in all its details will hardly resort to a periodical like ours for their information, as they know, or would soon learn, where to find the original work in which it was put forth. All that is necessary, is to give the reader such few of the leading features of the theory as will suffice to explain its principle.

Laplace supposed, then, that the whole solar system was once a huge nebula, with a slight condensation in the centre, like many which we now find scattered about the heavens; and that it was endued with a rotary motion around its centre. (It must be borne in mind that a nebula as extensive as the limits of the solar system would be a very small one compared to many hundreds of those that are known.) He supposed that in the process of condensation, combined with the effect of the rotary motion, this nebula threw off or abandoned certain of its outlying portions from time to time: first throwing off a zone or ring of matter which was to form the remotest planet of our system—Neptune: then condensing a little more and casting off a second, within the former, which was to form the next planet—Uranus: then a third to form Saturn; a fourth to form Jupiter; a fifth to form Mars; a sixth to form the earth, and so on. These various concentric rings or zones of matter, he supposes, themselves broke up and condensed and formed little nebulæ, revolving about the central one which was left when all the above were cast off, and which of course constituted the sun itself; and these little nebulæ, throwing off, in their turn, successive lesser rings, which were to form the satellites of each, the whole of the detached portions, the earth among the rest, in the course of time—immeasurable time—condensed into globular form, that form which all bodies left free to take their own shape, naturally assume. One exception only to a globe occurs in the solar system, and that is the ring of Saturn, which Laplace considers to be an exception that proves the rule, inasmuch as it gives a strong confirmation of the probability of the original ringed condition of the various members of the system. The reason why this annulus is not found in other cases is that the mechanical conditions requisite for the permanent maintenance of a ring form would be very seldom fulfilled. Lest any one should be inclined to doubt the possibility of the solid earth and all

its kindred planets ever having been a mass of vapour, we may state that if all the matter composing the whole solar system were so spread out and diffused as to be equally distributed over an area as large as the orbit of the planet Neptune, the expanded matter would be so light and thin as to exceed in rarity atmospheric air; its condition in such a state has been compared to the infinitesimal density of what is called a vacuum in the receiver of an air-pump. A ton weight of matter that would fill the space of a cubic mile must be as thin as a gas; but if that ton of matter could be condensed into the space of a cubic foot, it would be a material denser than iron.

When we consider the fact that the nebular hypothesis of Laplace satisfies nearly, if not actually, all the conditions that we observe in the solar system; when, too, we regard the character of its exponent, his stupendous mathematical achievements, and the improbability of his proposing a mere fantastic scheme without satisfying himself of its validity on all points, we shall have no difficulty in appreciating the assertion of the illustrious Arago, that the ideas of Laplace upon the constitution of the solar system "are those only that by their grandeur, their coherence, and their mathematical character can be truly considered as forming a physical cosmogony."*

But sceptics had a good reason for disbelieving this theory. It depended solely upon the existence of this nebulous matter, of which the only evidence was the visibility of patches of nebulous light scattered about the heavens; and many of those were undoubtedly proved, upon scrutiny by powerful telescopes, to be nothing but remote clusters of thickly aggregated stars, so remote and so closely clustered that they were visible to the dimmer vision of less powerful instruments only by their *united* lustre. Why should not all the so-called nebulæ be clusters, which future and yet more powerful instruments would resolve into their component stars? The question was one fraught with interest to speculative astronomers. One of the brightest nebulæ in the skies, that in the sword-handle of Orion, although its brightness indicated a proximity that would have allowed its component stars to be seen with comparative facility, nevertheless baffled all attempts to resolve it, until at length the stupendous telescope of the Earl of Rosse was completed and turned upon it. Then, as was thought, it succumbed, for the Earl of Rosse declared, upon the authority of his observations, the greater part of the nebulæ to abound with stars, and to exhibit the characteristics of resolvability strongly marked. With the supposed resolution of this nebula the last stronghold of the nebular hypothesis was thought to have been overthrown.

Thus the matter stood twenty years ago, and thus it might have remained till now, had not one of astronomy's sister sciences stepped in within the past few years, we might even say months, to lend her aid to the solution of the mystery. This science is optics, and that branch of it to which we are about to allude is the newly-found means of discovering the chemical constitution of celestial bodies by analysis of the light they emit. Every one knows that when a beam of light passes through a prism of glass and falls upon a wall, it is formed into a beautiful luminous band tinged with all the colours of the rainbow; this luminous band being known as the prismatic spectrum. But it may not be known that this spectrum is not the same for every sort of light; that a different one is produced, according as the light emanates from one luminous source or another. For instance, a solid body in combustion will give one species of spectrum, while a flame of a particular gas will give one of a totally different class, and the light emitted from a metallic substance in a state of fusion another. So that if an astronomer applies a prism to the eyepiece of his telescope while observing any celestial body, he can tell something of what the chemical constitution of the body may be. The sun has been found to be a solid body, in a state of incandescence, surrounded by the intensely heated vapours of a variety of chemical substances. The fixed stars have been found to resemble the sun generally, but with slight variations attributable to a difference of some of the elements composing them. Now, if the nebulæ were clusters of stars, it would be found that their light would yield spectra analogous to those of the stars; but, on the contrary, many of them yield spectra which leave no doubt whatever that they are composed of immense masses of some gaseous or vapoury matter. The observations of this class are exceedingly difficult and delicate, and the subject is as yet comparatively in its infancy; but all that has been done, as yet, goes to support the nebular hypothesis, by at least proving that *all* the nebulæ are not remote clusters of stars.

But, thanks to the scientific achievements of the past quarter of a century, we have yet another link between the facts that we observe, and the theory by which we would explain them. That the foundations of our earth were laid under the action of a fervent heat, is a fact of which the igneous rocks that form those foundations yield abundant testimony: and whence was such a heat derived? This question carries us on to another, for we are led to inquire, what is heat? A few years ago we should have been told that it was a subtle fluid pervading the inter-atomic spaces of matter: now we learn that it is only one of the many phenomena of motion. The "mechanical theory of heat,"—"the great philosophical doctrine of the present era of science," as it has been justly termed, teaches us that heat is nothing more than a species of motion amongst the atoms or molecules of bodies. Arrest the motion of a cannon ball by placing a target in its path; and what is the consequence? The ball is raised to a fiery heat by the concussion. We rub our hands briskly

* It is a noteworthy fact that the French *Bureau des Longitudes* has significantly expressed its opinion concerning Laplace's views by republishing his original notes, in the last volume of its *Annuaire*—that for the present year.

together, and they become warm. A blacksmith beats a bar of iron with his hammer, and it becomes red hot. Why is this? We appeal to the "mechanical theory," and we are told in reply that—whenever motion (*i. e.* force) is arrested, the motion of the mass becomes transferred to the atoms or molecules composing it, and this molecular motion is heat.

And now to apply this to our subject. In the collision, or condensation, or aggregation of the particles of matter that the nebular hypothesis affirms to have produced the various bodies of our system, an immense amount of motive power must have been arrested; and inasmuch as this great store of force could not be lost or turned to nothing, it appeared as heat, and an intensity of heat was generated sufficient to reduce the whole mass to a state of fusion. To quote the words of one of the most famous exponents of this new philosophy—Dr. J. R. Mayer—"Newton's theory of gravitation, whilst it enables us to determine, from its present form, the earth's state of aggregation in ages past, at the same time points out to us a source of heat powerful enough to produce such a state of aggregation, powerful enough to melt worlds; it teaches us to consider the molten state of a planet as the result of the mechanical union of cosmical masses, and thus to derive the radiation of the sun and the heat in the bowels of the earth from a common origin." And, as an example of the amount of heat this collision of cosmical masses would produce, Dr. Mayer cites that, supposing the earth to have been formed by the union of the two masses only, coming together from a great distance by the influence of their mutual attraction, the generated heat would have been sufficient, if the masses had been of nearly equal size, to raise the temperature of the whole body to from 30,000 to 40,000 degrees of the centigrade scale—twenty times the temperature of the melting point of iron; and the greater the number of parts thus brought into mechanical combination, the greater the quantity of heat that would be developed.

"The form of the earth is its history;" and this form indicates with mathematical certainty that it was once a more or less fluid body; the flattening at the poles being precisely of that extent which a liquid mass rotating at the speed of the earth would be subject to; and the igneous phenomena of the earth's crust, and the store of heat yet embowelled in its interior, are ample evidence that its former fluid condition was that of a molten mass rather than that of an aqueous solution.

But, assuming this to have been the origin of the primary condition of the earth, there must have been a time when the igneous body began to part with its heat, by radiation into surrounding space; and it is in this cooling process that we are to look for a cause for the diversity of geological features that the surface of our planet presents to view.

We may reasonably suppose, and the heated state of the earth's interior supports the supposition, that the first portion of the globe to cool was the exterior. The cooling and solidification of this portion would result in the production of a solid shell enclosing a molten nucleus, somewhat as we now find to be the case. Now between this solid shell and molten interior there would be a constant succession of conflicting actions: the shell, contracting as it cooled, would squeeze up, as it were, the interior: the interior, in its turn solidifying, would expand—for all substances expand in passing from the molten to the solid state—and thrust outward the confining shell; then, contracting as it further cooled, it would shrink away from the shell which, now unsupported, would fall in upon the retreating nucleus. By actions like these, the smooth surface which the planet might otherwise have retained would be broken up and distorted; mountain ranges would be formed by the ejection of the molten interior through the broken shell; continents be produced by the alternate thrustings-out and fallings-in which the shell would be subject to; and all those irregularities be occasioned which manifest themselves in the igneous foundations of the globe.

Fire on the one hand, and water on the other, are the two elements to which all the geological features of the earth are referable. With the second of these elements we have no concern in this sketch, for it is tolerably well known that its action produced those deposits which constitute the secondary and tertiary formations of the geologist, and which we may regard as superstructures reared upon a foundation that had a fiery origin. Incredible as it may appear to those who look at the present condition of the world they inhabit, there can be little doubt that that world was once a fiery globe, glowing possibly with a fervour comparable with that of the sun as we now behold it, though of far less significant size. How many centuries—how many hundred centuries—have elapsed since this was the case? We have an approximation to the period, but it may be enormously in error. Sir William Thompson, from a calculation of the rate of cooling of earthly bodies, assigns for the cooling of the crust of the earth, from a state of fusion to its present temperature, a period of 98 millions of years. And if this incomprehensible interval has elapsed since the earth took its finite form, how great, how stupendous, must be the lapse of time that has intervened since the matter of which it is composed, wandered through space a chaotic mass "without form and void!"

ON SKETCHING FROM NATURE.

By AARON PENLEY, Professor of Landscape Painting at the Royal Military Academy, Woolwich.

No. IX. A SPUR OF BEN LOMOND.

THIS is the first sunset drawing introduced into the pages of NATURE AND ART. The effect is that of a summer's evening when the sun has just sunk below the horizon, leaving the heavens illumined in softened, but still golden, light. At this particular time such an amount of warm reflection is diffused over the landscape as finds its way to the feelings of most people—at any rate, of all who are nature-loving, and who delight in the study and practice of transmitting her effects to paper. We all like warmth of colour—it is natural to do so; there is something cheering and exciting in it; and for this reason, apart even from that mingling of harmonizing and contrasting hues, a sunset effect is always looked upon with pleasure.

To give a simple, yet an agreeable illustration, I have avoided any complicated arrangement of clouds, whereby the pupil would be confused, and have sought to produce a breadth of effect and singleness of character which will tend to show the blending of tones peculiar to the *sunset*. I have also selected for study a description of scenery calculated to convey instruction and manipulative dexterity—the latter being requisite, truly requisite, for the expression of INTENTION. And this being the case, I cannot advocate too much a neat and careful method of handling the brush, or a careful study, before applying it, of what has to be done, and of the manner in which it is to be done. A little halting, with some thought upon "the why and the wherefore," will greatly help to success, whereas the want of it will always be accompanied by failure. An esteemed friend of mine, who really is an excellent amateur artist, once told me that immediately he began to put on the first wash of the sky, it was "a case of *sal volatile*, he felt so nervous." That this is a general feeling I can pretty well testify, having witnessed it so constantly in my numerous pupils; therefore I the more earnestly recommend the exercise of thought, first upon the *matter* and then upon the *manner* of treating it. In addition to all this, cleanliness is most desirable, and should be observed in respect to the Colour-box, Brushes, and Paper. The first should (at least in my opinion) always be sponged clean, and wiped with a pallette cloth after finishing the day's painting. It will then be ready for further use, and the most delicate tints may be produced without danger of unnecessary mixture. The brushes should also be washed and put into form by passing them through the pallette cloth. As for the paper, too great care cannot be taken in keeping its surface free from dirt or abrasion of any kind; and, to preserve the equality of texture, bread will be found preferable to india-rubber in making corrections. With these prefatory remarks, I begin to place before the amateur directions for copying the present subject upon Loch Lomond. It is only in the first stages of progression, and yet sufficiently coloured to give a somewhat true and pleasing impression.

I have said much—but not too much—upon the necessity of having a correct and well-drawn outline before thinking of commencing to colour. I will now only say, let it not be neglected. After the paper has been washed with clean water and a large brush, prepare some ROSE MADDER (or CRIMSON LAKE) and YELLOW OCHRE in two different tints—the one inclining to a roseate hue and the other to a light amber; and, while the drawing is still damp, commence at the top with the red tint and join the yellow midway, then add the red just above the mountains, and also over them as far as the water, where again change for the yellow, passing over the middle distance and foreground to the right, and then again taking more red over the immediate front. While in its wet condition, take a piece of blotting-paper, folded once or twice, and touch with its sharp edge upon the white light on the stones by the water's edge, which will remove the colour very softly, and regain the white of the paper. This method of obtaining light is frequently put into practice when fleecy clouds or a mackarel sky are to be represented. When this first blotting in (or washing in) of colour is dry—quite dry—the drawing should be turned upside down, and the yellow portion of the sky passed over with clean water, and then a tint of COBALT, with a little ROSE MADDER (or LAKE) introduced into it, and carried to the top of the sky. This will give the grey warmth of tone seen above. After this, make some tints of the amber, roseate, and blue hues, and apply them over the mountains, observing where the several changes occur. Take care not to let the blue mingle with the orange tone, which would completely spoil the purity of colour, but let it rather amalgamate with the roseate tint, where it will unite agreeably into the soft clear greys, away from the influence of sunlight. Attention to these contrasting as well as harmonizing varieties must be observed, as by them the effect of lustrous light, if I may so speak, is preserved. The water will also receive light washes from these colours. The warm yellow tones of the middle distance, as well as the grass, are to be put in with YELLOW OCHRE and a little ROSE MADDER. The grey shadows (warm in character) must also have their first washes placed correctly, and somewhat strongly, with the edges decided and clear.

At this stage, when the whole of the above flat tints are satisfactorily done, it is desirable to wash all over them with a soft brush and clean water, to

remove the colouring matter from the upper surface of the paper. If properly washed, scarcely any of the colour will come off: nor should it, the object being simply to produce a more perfect blending, and to adapt the paper better to receive every subsequent wash. I find the safer plan to do this successfully is to place the drawing a short time before the fire, so that the colour may become hardened, and have some hold upon the paper, and then the washing may generally be depended upon. Different papers, however, have much to do in this respect, as well as the granulation of surface. A very fine texture, much sized, does not absorb the colour so well as a more open grain with less size: therefore *too* smooth a surface should be avoided. On the other hand, too rough a grain will not admit of the brush giving that clear and decided handling so much to be desired—at all events, by the tyro—in water-colour painting.

The washing having been accomplished, other tones have to be passed over the mountains (and sky if too light), with precisely the same colours, giving to each part the tint of which it partakes. The trees in the middle distance are of a variety of tones, produced from COBALT, YELLOW OCHRE, and CRIMSON LAKE (not rose madder). For the middle distance and grass in the foreground use GAMBOGE, RAW SIENNA, and SEPIA. The stones are also continued in their darker touches and shadows with COBALT, YELLOW OCHRE, and LAKE, which colours are also to be employed for the stems of the trees. In the foliage of the nearer trees there is much diversity, and it is requisite to observe the exact character of the green tints, giving them precisely according to the copy, as their position is of much value to the effect of the whole drawing. GAMBOGE, BURNT SIENNA, and INDIGO, with the addition of LAKE for one of them, are to be the colours for these several gradations or varieties of hues. The brush should be tolerably well filled for putting in these washes. The road is to have a slight wash of COBALT and ROSE MADDER over the front part, in order to send the light upon it to that part by the trees.

Beyond the foregoing instructions I say nothing, thinking it as well that, in the more immediate details, the pupil had better exercise the knowledge already attained. In a future number I purpose giving the same drawing in its finished state, when I shall speak of its composition at some length.

THE DRAMA. AUDIENCES AND PERFORMANCES.

SOME of the reflective people who go to the theatres more to oblige others than themselves, are beginning to make philosophical inquiries as to the kind of entertainments they find there. The majority are not so inquisitive, and take the goods the managers provide for them without much inquiry or criticism. Of course when a London man goes to a theatre and pays, he goes because he has some liking for the class of entertainment announced; and therefore, if he does exercise any judgment upon it, it is not upon the species, but the individual specimen of it which he witnesses. Having selected a theatre which announces a burlesque or a pantomime, he confines his comparisons to the performance he sees. There are, however, large numbers of persons—and they consist generally of those from the country—who, having to "do" the theatres in a few days, go haphazard into them, taking the performances as they may chance to turn up. It is this class of playgoers, though they have little critical capacity and no experience, that is most dissatisfied with the theatres; and if they happen to be of the educated order, such as country magistrates, local professional people, or clergymen, it is from them that the deepest cry issues of the decline of the British drama. In their youth, when they were more capable of enjoying and less inclined to criticise, they recollect seeing some peerless actor, some extraordinary genius; and to this standard they rack every performer, expecting from a walking gentleman the intensity of an Edmund Kean, or the grandeur of a Kemble. They have also read, as a part of the literature of the country, the dramatic collections; and thus unprepared for the modern drama, it seems to them a mass of either vicious intrigue, outrageous exaggeration, or incomprehensible nonsense. It may be said, if this is the impression produced on our country cousins, how is it that they throng the theatres and contribute so very largely to their support? There are two replies to this assertion. First, provincial persons are very chary of giving absolute judgments; and, secondly, there are such influxes every hour of them into London that it is the succession of visitors, and not the repetition of visits, that constitutes our great London audiences. There are also many metropolitans who are in the same condition as the country visitors, as living in the suburbs, and only occasionally going to the theatre; though they are somewhat more influenced by the actual performance, and proportionally drawn by the particular entertainment announced. Still, both classes of these kinds of visitors are in the main actuated rather by the idea of "going to the play," than by any other motive.

Although, then, country and suburban visitors form a very large proportion of theatre supporters, yet there are still a large class of persons who are regular habitués and frequenters of them. The million who dwell within a two-mile radius of St. Paul's still furnish a large proportion of theatre

frequenters, and these, each in his degree, are critics, and discriminate after their fashion very precisely on the performances. They lead and, indeed, generally make the demonstrations on the part of the audience. But even of these many are only occasional visitors, and therefore are perfectly passive. The young butcher and Matilda Mary Anne at the play have other thoughts in their heads than the precise amount of intelligence Mr. Phelps displays, or than even the exact amount of vivacity shown by the Harlequin and Columbine. Still, the majority of London play-goers have a standard of excellence, and expect a fulfilment of it, and if the English drama has any patrons who at all affect its performances, it is this class, which is, however, subdivided into many departments. The chief divisions are the youths of the lower class, who frequent the galleries, and the young men of the upper class, who frequent the stalls and the pits, according to the capacities of their pockets. The boxes are more frequented by families; and mater-familias is anything but critical on fine-art matters, so that her children are pleased. As it is only by analyzing audiences that we can come to the rationale of stage performances, we have indulged in this dissertation. There is of course a great action and reaction in the matter of public amusements. The manager is anxious to attract, and the audiences expect to be pleased. In fulfilling these efforts, many mistakes are made, and theatrical management becomes a very tentative occupation. Certainly many pieces have achieved extraordinary runs that no one anticipated. It was a mere experiment that brought Mr. Sothern before a London audience; and we well recollect that, in the theatre he was to appear at, great doubts were expressed as to his success. That he would be endured was doubtful, yet the town, including those presiding young men of the pits and galleries, so took to him that he performed the same character every night for a year. When the "Colleen Bawn" came out, there was nothing in it to show it would become the most popular piece of the time; and even now it is difficult to say why it was so. Taste, however, in matters of amusement, "*vires acquirit eundo:*" and this *vis* is commonly called fashion. What many admire, all wish to see.

Theatrical people, whom many suppose to be the most reckless of mortals, are, on the contrary, the most cautious and careful in professional matters. A successful modern manager is the most pains-taking of men; actors the most punctual. Neither military nor commercial men are more exact in their business matters. Nothing will induce a manager to voluntarily run the risk of the failure of a piece; nor will any actor of repute take a part he thinks likely to be damned. Neither of them has any very strong perceptive powers as to the capacity of an untried drama; nor of an entirely original part. They are almost wholly guided by facts. A successful French melodrame will be played at every theatre in London, and become a model for all dramas until some other piece of a totally different kind unexpectedly arises, when there is another flooding of the managerial mind. The "Ticket-of-Leave Man" succeeds; and there is no end of burglarious plays. "Lady Audley's Secret" is dramatized, and all the authoress's novels are put on the stage. An old comedy which has a literary but no theatrical repute, revived in mere despair, attracts, and all the most celebrated of a like kind are produced. In the theatre, all is tentative that is original; but the staple of the stage is a manufacturing to pattern.

To manufacture is the genius of this age; and he who does not manufacture may become famous, but he never will become rich. The premium of millions is given to successful manufacture; but no man without multiplying talent can be a millionnaire by his own efforts. The tenor singer may earn large sums, but the spinner of popular melodies will make infinitely more. The dramatists are beginning to learn this; and therefore their entire aim is to be popular. They no longer conduct themselves as literary men, but avow they are manufacturers. Mr. Boucicault is the least literary and the most successful of stage-play manufacturers; and he not only knows how to manufacture, but he has a complete commercial knowledge in the vending of his wares. He gets every penny out of them. It must be owned, his scientific knowledge of the construction of dramatic wares is very exact and ingenious. He has carefully studied what tells on the stage; he is very diligent in collecting interesting material; he is most unscrupulous as regards taste in using it. It is not that he writes dramas that exemplify human nature, or reflect human events, or even human probabilities; but that he knows how to excite the mind of his audience, and put them in a state that the grossest impossibilities will be received for facts. He is at present the first of stage manufacturers. Many others emulate him; but they have not his finish. "Arrah na Pogue" was finished so completely that it seemed to have something of the creation of literature in it; but it had not. Mr. Tom Taylor has more of literary power; and he has not yet quite come to studying nothing but stage effect. His characters say, as well as do, something. Yet in this author the artisan manipulation is becoming far more apparent than the art work. His last production at the Haymarket, "A Lesson for Life," is extremely mechanical, although the first two acts are manipulated with great skill. The last act is absolutely coarse work: probably the chief actor has set his clumsy hand to it to make the relief higher; but, in so doing, he has become fulsome and exaggerated. The manufacturing system is strongly shown at the Lyceum Theatre; although it is rather in the accessories than the drama that the handicraft is exercised. Here the stage business is faultless. The scenery in "Rouge et Noir" is all of the best kind of manufacture. Ditto the costumes. Ditto the upholstery. Ditto the realities of all kinds. Ditto the acting. Consequently it is impossible to find fault; but it is equally impossible to be interested. Like the domesticated game sold in the markets, it is fresh, it is plump, it

looks all that pheasants and partridges should; but it is flavourless. Truly the feasts of the Barmecides are not confined to taverns! everywhere we have all the outward show of literature, drama, art; but we test them—and lo! they are a mockery.

And why is it that riches can command everything but excellence? Truly because excellence is scarce; and the thorough appreciation of it almost equally so. The nightingale sings in the bush; and if nightingales were to become the rage, they would be manufactured by thousands; but the incessant little warbler in the artificial bush in the conservatory or at the theatre, would be a very different thing to the lonely songster at the edge of a moor warbling to solitude and a distant listener. Yes! everybody wants to make money, in order, as he thinks, that he may have everything else. But the multitude can only be supplied by manufacture; and nature is still so kind that she gives her setting suns, her nightingales, and her balmiest airs to the poor ploughman, who "homeward plods his weary way." It comes all then to this: the millions can only be supplied by manufacture; and noble art,—which is but another name for the highest excellence,—is only the produce of some one rare mind; esteemed by the few of a congenital nature; and only gradually and gently disseminated to the many. Whether the many can ever be so enlarged and so elevated as to at once see and approve the highest, cannot be discussed here. All that is sought in these desultory utterances is to show that the present state of the stage grows out of circumstances—perhaps out of uncontrollable circumstances; that it is no better and no worse off than other branches of art and literature; and that the drama of the present day is as much a manufacture as clocks and watches are. There is, however, this vast difference, that the stage is more at variance with the mind of the age than the watch machinist is, because in matters which bear the semblance of art, the soul seeks for delight, and is not satisfied with utility.

INGRES.

FULL of years and honours the greatest of the French painters has gone down to his grave. He survived his favourite and most devoted pupil scarcely three years; for Hippolyte Flandrin died, it will be remembered, in the spring of 1864. The distinction which Ingres had attained and the success he had achieved are well known to those who are interested, however little, in the Art of France. But the struggles of this painter's youth—struggles prolonged, indeed, into middle age—the fierce controversies as to his claim to honour and fame: these are not so widely known. With the mention of his name there rises in our minds the image of the great artist, incontestably successful; the artist whom a king of the house of Orleans, and an emperor of the house of Bonaparte agreed to distinguish; who was made a grand officer of the Legion of Honour and a senator of France. But the name of Ingres is not less truly associated with the toils of years, and with wearisome struggles for recognition, made almost alone and in the face of the most powerful opposition. Ingres found no royal road to fame and fortune: he beat out his own track painfully and laboriously, and in the midst of profound discouragements. He was born at Montauban, on the 15th September, 1781; and he showed a taste or a talent for painting when he was a very young child: but his father had designed that he should devote himself to music. The fathers of men of genius generally have some cherished plan for their sons, which they at last reluctantly abandon: and so it was with the father of Ingres. Fearful lest his own wish should never be realized, he actually forbade his son to draw or to paint. But at Toulouse, where the boy was receiving his education, he got this prohibition withdrawn; and, later still, the parent consented that young Ingres should be a painter. The youth went to Paris, and placed himself under David, who was then at the height of his fame. He was nineteen years old when he obtained the second prize from the Académie des Beaux Arts; and not long afterwards he took the first prize, through the merits of his *Embassy to the Tent of Achilles*. Such early successes may seem to belie the statement that his upward course was a course of struggle; but it should be remembered that in those early days the school of David was in the ascendant; and the trying days for that school were still to come. When the tide began to turn, and a different class of painters became popular in France, it was urged that M. Ingres—the obscure young man from the country—had been too profusely rewarded; and if the decisions of the last few years could have been reversed, reversed they would have been. In 1808 he painted a portrait of Napoleon, which was purchased for the Hôtel des Invalides; and when that work was finished he left Paris for Rome. It was his intention to remain in Rome four or five years; but that period was greatly exceeded, on account of the coldness with which the works he sent to France were received in his native country. At Rome, in 1813, he married; but his worst days were still to come. From that time forward, for some years, he was dependent for his daily bread upon the sale of pencil sketches. Nevertheless, this period saw the beginning and completion of some of his best pictures. They are known chiefly in Italy; or, at

all events, they were at the time of their production, though the knowledge of them has now reached the country of his birth. In 1820 M. Ingres moved to Florence, where he painted the *Entry of Charles V. into Paris*, and the *Vow of Louis XIII.*, both of which are in the cathedral of Montauban. The *Apotheosis of Homer*, which is generally regarded as his master-piece, was painted when the artist was back again in Paris, in the year 1827. Perhaps it represents, as well as any single picture can, the range and power of his genius—his ideal composition, his correct drawing, his sober colouring. Yet the claims of this picture to praise were, at the time, fiercely contested; though now the great classic artist had his own band of supporters, who made a good fight on his behalf.

In Paris Ingres established a school, to which those young students who had the best judgment and taste, or the wisest advisers, quickly resorted. Hippolyte Flandrin joined this school on his arrival from Lyons; and he was never slow to avow his obligations to its master. As a man the pupil loved M. Ingres: as an artist he almost adored him. And if we desire a more impartial testimony to the beneficial influence of Ingres than the favourite pupil and attached friend himself could give, we find it in the words used by the Vicomte Delaborde to describe that influence:—"C'est un honneur pour le peintre de *l'Apothéose d'Homère* d'avoir formé le peintre de *Saint-Vincent de Paul*, et cet honneur est d'autant plus grand que les exemples fournis au disciple ont, en instruisant celui-ci, moins dénaturé son propre sentiment, moins compromis l'indépendance de sa pensée. M. Ingres a pu transmettre, et il a en effet révélé, à Flandrin les secrets de l'ampleur et de la finesse dans l'exécution, d'une correction sévère dans les formes."

In 1834, and not five years before that date, as has been incorrectly stated, Ingres was appointed director of the French Academy at Rome, on the resignation of M. Horace Vernet. Some of his friends thought it a pity for him to leave France just as his name (so they thought) was becoming more famous and his teaching more honoured. But Ingres accepted the situation; and, if the truth were known, he was probably glad to escape the endless and wearisome discussions to which his pictures gave rise, and which so long as he remained in Paris he could not altogether avoid. Truth was on his side. It was great, and he knew it would prevail. So he could afford to wait the issue, and give himself to work. It was from Rome, we believe, that M. Ingres sent his great picture of *Stratonice*—the famous picture bought first by the Duke of Orleans, then acquired by M. Demidoff, and afterwards in possession of the Duc d'Aumale. About 1842, the painter returned to France, and from that time till 1855, he was busily engaged in painting. At the Universal Exhibition held in Paris in the last-mentioned year, he was fortunate enough to have a room assigned entirely to his own works; and a noble display they made of all that is most graceful and pure in allegorical or in simply religious painting.

Since 1855 M. Ingres has painted less than in the days of his middle life; yet his brush has not been idle. The *Source*, a girl's figure entirely "undressed," attracted the notice of everybody and the admiration of artists, at the International Exhibition held in London in 1862. It was said to be a portrait, very much "idealized," of the daughter of his *concierge*.

In these latter days no voice has been lifted up to contest the great painter's supremacy; and, though many artists in his own country stray from the broad clear lines he has laid down for them to follow, there are few who would not admit the excellence of his teaching and of his own practice. King Louis Philippe named him a knight of the Legion of Honour, and subsequently a commander. A sovereign yet more apt to distinguish genius and to reward it, promoted him to the rank of Grand Officer in 1855. In 1862 that monarch named him a senator of France: he could bestow no higher compliment upon the veteran painter. Happy in his domestic relations, at peace with the world, and soothed with the thought that full recognition had after many days been made of his genius and laborious efforts, Jean-Auguste-Dominique Ingres died, in his eighty-sixth year, on the 14th of January, leaving the classicists, who had so long clustered round him, in grief and in embarrassment where to find a new leader.

A FEW NOTES, HISTORICAL AND HERALDIC, ON THE LION.

THE probably wide-spread existence of the Lion, in the early ages of man's history, is a point which appears to us to have been somewhat overlooked by the numerous writers who have undertaken to describe the so-called "Monarch of the Forest." The intimate acquaintance with the peculiarities of these animals, which we observe in the works of ancient artists, and of writers sacred and profane, though it may not wholly determine, at least appears strongly to favour the supposition of such existence. The subject is an interesting one, both to the student of history and to the naturalist, as affording presumptive evidence of a former prevalence of the species which must have exerted an important influence on the extension alike of the human family and of other races of the animal kingdom,* in regions where all

* M. Jules Gérard estimated the destruction of cattle by each lion in Algeria at £300 per annum.

Another French writer (M. Chaissaing) calculates it at

traces of its presence (in the shape of organic remains or otherwise) have been lost.

Let us turn in the first instance to the writers of the Old Testament of every period, from the days of the patriarch Job to those of the Babylonish Captivity, twelve centuries later. Biblical commentators enumerate five different terms thus applied by those writers; viz., *gur*, a Lion whelp; *chephir*, a young Lion just leaving his parents; *ari*, a young Lion just paired; *sachel*, an old Lion; *laish*, a fierce (or more literally a black) Lion.*

Thus we have in Ezekiel, chap. xix.: "She brought up 'one of her whelps' (*gur*), and it became 'a young lion' (*chephir*), and learned to devour men."

And in Numbers xxiii.: "The people shall rise up like a great lion, and lift himself up as 'a young lion' (*ari*); he shall not lie down till he eat of the prey, and drink the blood of the slain."

And in 2 Sam. xvii. 10: "Whose heart is valiant as the heart of a lion" (*ari*).

Again in Job iv. 10: "The roaring of the lion (*sachel*), the voice of the 'fierce lion' (*laish*), and the teeth of the 'young lions'" (*arim*).

And in Proverbs xxvi.: "A slothful man saith there is a lion (*sachel*) in the way, a lion (*sachel*) is in the streets;" and in chap. xxx.: "A lion (*laish*), which is the strongest among beasts."

Many more passages might be quoted, but the above are, we think, sufficient to show, not only an intimate acquaintance with the peculiarities of the Lion on the part of the sacred writers, but also that the similes they used (the points of which are partly lost in the translations) were assumed to have the force of familiar incidents to those to whom their writings were addressed.

The Assyrian antiquities are an example of the same familiarity with the Lion, among ancient artists. If due allowance be made for the material in which these bas-reliefs were executed, and for the fact of the figures being invariably in profile, and in outline only, the spirit and fidelity with which the lions are rendered will, we think, be allowed by every close observer to be remarkable, and to contrast strikingly to the disadvantage of many "Studies from the Life" of artists of later date.*

It must be remembered that in those days Chaldæa was not the wilderness it has since become, but teemed with a busy population, possessing a degree of civilization and refinement, such as recent discoveries have at length enabled us in some measure to recognize and understand.

In ancient profane writers, the same fact is observable. Let us take the frequent allusions to the Lion which are to be met with in the Iliad; without going to extremes, like the learned commentators of whom Swift wrote,—

"Who view
In Homer more than Homer knew,"—

we must allow, with a recent critic, "that there is not a single passage among the many in the Iliad relating to the Lion, which contains anything that is not true to nature," and "that whenever and wherever the bard lived, lions must certainly have been tolerably plentiful."

The writings of Aristotle are another example in point; wherever he may have acquired his information (and this we presume will ever remain an open question), his description of the Lion is, save in a few details, correct; and as such, differs widely from the absurdities he has recorded of other equally common animals, as the camel and the elephant. It is frequently assumed that many of his details were drawn from the pages of Homer and Hesiod, and the resemblance is certainly often very close; we may cite his account of the Lion's slow and deliberate retreat when attacked, turning himself about at intervals, to glare on his pursuers, the simile used by Homer to describe the retreat of Ajax from the Trojan host:—

"Θηρὶ ἐοικὼς
Ἐντροπαλιζόμενος ὀλίγον γόνυ γουνὸς ἀμείβων."
Il. xi. 486.

Aristotle (quoting, however, most probably, from Herodotus) asserts the existence of lions in Europe in his day.

As a further example of intimacy with the minuter details of the subject, we would instance the small claw on the Lion's tail, the existence of which was denied by modern naturalists, until the fact was vouched for by Blumenbach; but which appears in the Assyrian remains, and is alluded to by Homer.† The writings of Aristotle no doubt

1 sheep every day; 1 ox every month; 1 horse every two months, besides many camels, and a considerable number of human lives for each adult lion during his career. He quotes the probable destruction, under the first *three heads alone*, in two departments of Algeria, at £27,000 per annum. Neither will these accounts appear exaggerated, if we bear in mind the immense loss of human life and the frightful slaughter of cattle, in certain districts of *India*, by wild animals (chiefly tigers and wolves), in despite of the large sums paid annually as rewards for their destruction.

* Lions' whelps (*gurim*) when small are, as the writer can vouch, playful and affectionate, though very destructive pets.

When between one and two years old, they begin to kill on their own account (*chephir*), and according to M. Jules Gérard, at two years are able to strangle a horse or camel. He adds, the destruction they then cause is frightful; they appear to kill in order "*to learn to kill.*"

The Lion attains maturity at eight years, and when he first pairs appears peculiarly daring (*ari*). When he gets old and unable to pull down game, he frequents the neighbourhood of villages and becomes a man-eater (*sachel*). Both in North and South Africa, black lions, *i.e.* those with dark tips to the hairs of the mane, are reputed the most fierce. Recent naturalists incline to the belief that size, colour, &c. depend on locality and the nature of the cover the animal frequents, rather than on difference of species.

* The spirit of the originals is, generally speaking, altogether lost in the fac-similes of the bas-reliefs which are given in popular works on these antiquities.

† The following remarks on this point, in Mr. F. Buckland's entertaining volumes of "Curiosities of Natural History," Third Series, may not here be out of place.

"In the Proceedings of the Zoological Society, September 11th, 1832, we find it recorded that a specimen was exhibited of a claw, obtained from the tip of the tail of a young lion from Barbary. It was first seen on the living animal by Mr. G. Bennett, who pointed it out to the keeper. They secured the beast, and while handling the claw it

formed the groundwork of Pliny's well-known account of the animal; most of the additional information given by the latter writer consisting of the absurdest fables. In the case of the Lion these marvels have always appeared to us somewhat remarkable, when we keep in view the habits of personal observation for which the Roman naturalist was proverbially noted, and the number of these animals which it would seem were then brought to Rome. Thus he relates having himself witnessed the triumphal entry of Marc Antony, in a car drawn by lions;* and a few years later, 800 of these animals are said to have been brought from the province of Numidia to the Roman arenas in the course of a few months. The works of Pliny and other writers of his day, in their turn, doubtless furnished the marvel-loving minds of our forefathers with abundance of pabulum. Not only do we find traces of their stories in the writings of Bossewell, Gwillim, and other old heralds, but the illustrations of many mediæval MSS., and the carvings in some of our older cathedrals, abound with conceits of evident classical origin.

The Lion, however, plays so important a part in our national heraldry, that we must be permitted to devote a few words to this point.

The Lion appears to have been a favourite allegorical device, in the earliest times. A golden Lion was the emblem of the tribe of Judah, a silver Lion was the badge of the Macedonian conqueror. Lions (not tigers) were, we are told, the insignia of many early Indian dynasties,* and the "ruddy Lion rampant," of Scotland—though we may not be prepared, like certain Scotch antiquaries, to refer it to the days of the mythical king Fergus, centuries before the Christian era—can unquestionably lay claim to great antiquity. It is remarkable that, with the exception of the Eagle, the Lion is the only living creature figured in the early Rolls of Arms. Lions have so been borne by the sovereigns of England, from the time when first they possessed armorial insignia. A Lion was the ensign of the native princes of Wales;† of the kings of Norway, of Denmark, of Leon, of Bohemia, of Hungary; of the counts of Holland, of Hainault, of Eu, &c. &c. It occurs, in like manner, in the arms of the most powerful English barons.

The Lion was at first represented by heralds as rampant, *i.e.* in the attitude of combat *only*, and as such was typical of all the nobler attributes,—courage, fortitude, magnanimity, &c. The colours were varied heraldically, possibly as much for the sake of increasing the armorial significance as for the purposes of distinction.

Lions in a walking position were termed heraldically *Leopards*, a practice which continued as late as the fifteenth century, and which has given rise to many mistakes in the descriptions of the Royal Arms of England. Two Leopards or Lions leopard, gold on a red ground, were thus the Royal Arms until the reign of the first Richard, when a third Lion was added thereto, and the shield became what it has since remained.

In addition to the Lions in the Royal Arms, these animals were frequently assumed as royal badges or devices, and adopted in the arms of royal retainers. Thus the sable Lion of Hainault was a badge of Edward III., being the arms of his queen, Philippa of Hainault, and as such, it appears in the coat armour of many old English families. A sable Lion, "the black Lion of Powys," was also the arms of Madoc ap Meredyth, and the device of his descendant Owen Glendower; hence its frequent occurrence in Welsh armoury. The gules Lion in the arms of Scotch families, usually points to some intermarriage with Scotch royalty; but in English coat armour it would seem to have originated in the fact of its having been a favourite badge of the Lancastrians (the Lion of Leon, the arms of Constance, daughter of Pedro the Cruel, and wife of Henry, duke of Lancaster); and thus it was probably often adopted by families on the

came right off, and was brought under the notice of the Society. It is formed of corneous matter, like an ordinary nail, being solid throughout the greater part of its length; towards the apex it is sharp, at the other end it is hollow and a little expanded; it is flattened throughout its entire length, which does not quite amount to *three-eighths of an inch*. Its colour is that of horn, but it becomes dark even to blackness at the tip. Its presence or absence does not depend on size, as the Lion in Paris, on which it was found, was of considerable size, while that belonging to the Society, from which this was taken, was small and young; nor upon sex, for, although it was wanting in the female in London, it existed in the Lioness in Paris." Mr. Buckland adds, "it is evident from their smallness, their variable form, their complete envelopment in the fur, and especially from the readiness with which they are detached, that these can fulfil no very important design, let it be what it may." He expresses his own belief that the claw is no more than a bit of the ordinary scarf skin of the tail, which, confined to its place by the dense hairs which form the tuft at the end of the tail, is prevented from falling out of its place, and in time becomes hard and horn-like.—*Curiosities of Natural History*, Third Series, vol. i. p. 220.

* Lions are occasionally depicted in the Egyptian remains. One instance, which is specially noticed by Sir G. Wilkinson, represents figures hunting with tame lions in place of hounds. This, if we accept the examples on these remains as sober representations of fact, and not as having been occasionally vagaries of the artist's fancies, was but an instance of that skill in domesticating animals by which cats were taught to retrieve wild fowl in the fens, and apes to assist in the labours of the husbandman. It is curious, however, to note that this familiarity with the Lion does not seem to have led to the depreciation of his powers and attributes observable in the writings of some recent travellers. The Lion was, on the contrary, a favourite symbol of power and majesty among the ancient Egyptians. Many examples of this being the case occur in the hieroglyphical inscriptions which have been brought to light of late years. We may instance one at Beitou-Ally, in honour of Rameses II., given by Rosellini, and quoted by Mr. Birch, in his "Introduction to the Study of the Egyptian Hieroglyphs:"

> "O perfect god, very terrible,
> The *strong Lion*; mighty lord;
> Strangler of hostile lands.
> Fallen are the Tahennu [European] to thy blade,
> Killed lies Phut [Asia] under thy sandals," &c., &c.

* Pocock's "India in Greece."

† The names of the Lion in Welsh, in Gaelic, and in the Scandinavian dialects, appear to us to indicate that the cognomen, and probably the idea of the animal, was derived from a Latin source.

Lancastrian side.* The silver Lion of Suffolk, borne by the Howards, of which Scott speaks,—

"Who in field or foray slack
Saw the *blanch* Lion e'er fall back"—

was, in like manner, a favourite device of Edward III., and descended to the Howards through the Mowbrays. Neither was this symbolical use of the Lion confined to the Western nations. We have an example of the contrary in the modern inhabitants of the Punjâb. The Sikhs were so named from the Hindostanee verb *sikna*, to teach, and they claimed to be men of peace, from being TAUGHT; but the cruelties of the Mahomedans in the North of India caused them to become men of war, and they called themselves LIONS, which in their language is SINGH. Every Sikh now calls himself by this name. Dhuleep Singh is the LION Dhuleep, and his father, Runjeet Singh, was, in like manner, the LION Runjeet.

No more appropriate pictorial illustration of this paper could have suggested itself than a chromotype after one of Mr. Vernon Heath's now famous photographs. Our artist has very happily availed himself of the facilities kindly placed at our disposal, and done injustice neither to the subject nor the eminent modeller. With this brief allusion to the speciality of our magazine, we must now bring our notes on these, "the chiefest of all terrestrial animals" (as the old Herald Gwillim terms them), to a close.

* This badge (a Lion rampant, gules) was adopted by the Duke of Lancaster in token of his supposed claim to the crown of Leon. A glance at Sir Bernard Burke's "Encyclopedia of Heraldry" will show how frequently the charge occurs in English armoury.

THE COCOA-NUT PALM.

(*Cocos nucifera.*)

By W. B. LORD, Royal Artillery.

AMONGST the pleasant memories and "green spots" scattered here and there along the path of the traveller to distant lands, few will perhaps have made a more lasting and pleasing impression than his first visit to a grove of cocoa-nut trees; and the cool refreshing rustle of the long graceful fronds as they ripple and wave feather-like before the fresh trade wind, is a sound so unlike most others, that, once heard, it is rarely forgotten, but comes back in far-off scenes like some old familiar tune or the voice of a dear friend.

The coral reef, reared from the ocean's depths by the labours of myriads of tiny coral insects, year by year and age by age, growing ever upwards, at last reaches the surface, and the crisp-green waves break in snow-white foam on the mighty barrier which the legion of pigmies have built up to dispute their dominion. Sea-weed, drift-wood, the dead echini, the broken empty shell, the stranded fish, and the thousand and one waifs and strays ever drifting with the tidal currents, accumulate on the new-formed rock: all these in time decay or break up, but are ever added to, until at last, wave-borne in its tough and buoyant husk, a cocoa-nut arrives, germinates, and sends its roots far out amongst the congenial elements with which it is surrounded, and, watered by the tropic shower and the surf-spray, shoots boldly up, towers aloft, becomes a tree, and in due time bears fruit, which, when matured, falls, and again germinates like the parent. The passing sea-fowl and migratory birds, tempted by the havens of rest thus afforded, alight to recruit their weary pinions, bring seeds of trees and plants from far-off islands and continents, undigested in their crops; these, too, spring into life, bear seed, flourish in their new home for the brief period of their existence, and by death and decay help to furnish the materials for the sustenance of succeeding generations of plants.

At length man appears on the scene and claims the little kingdom Nature has prepared and made ready to his hand. Thus it is that the innumerable coral islands dotting the tropic seas are formed, and these are the favourite homes of the cocoa-nut tree. There are other situations in which it grows and where its cultivation is carefully attended to; but the cocoa-palm loves the sea breeze as heartily as an ancient mariner, and thrives best within its influence, rarely arriving at perfection at a greater height than six hundred feet above the sea level. Numbers of coral isles, formed as we have described, are perfectly destitute of water, and contain neither wells nor springs. These islands, beautiful as they are, would be perfectly uninhabitable had not a bountiful Providence provided a substitute in the deliciously cool fluid yielded by the young cocoa-nuts, of which any quantity can be obtained by climbing. Each nut, when of the proper stage of growth, contains about a pint of liquid, cool as water from the depths of a cavern, and possessing a combination of acidity and sweetness most piquant and highly refreshing. Sheltered from the noon-tide sun by the fern-like canopy overhead, and with a cluster of freshly-gathered nuts before him, the traveller will scarcely fail to remember Thomson's lines:—

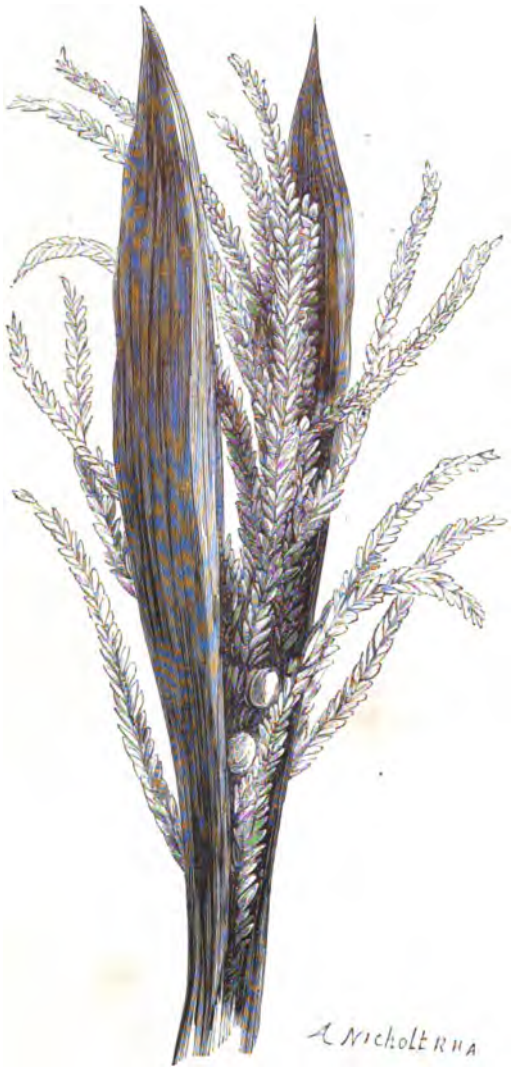
"Shelter'd amid the orchards of the sun,
Where high palmetos lift their graceful shade;
Give me to drain the cocoa's milky bowl,
And from the palm to drain its fresh'ning wine:
More bounteous far than all the frantic juice,
Which Bacchus pours——."

The range of this invaluable tree is very extensive, it is found in Africa, the East and West Indies, South America, and the countless islands of the Southern seas. There are many varieties of cocoa-nuts, each distinguished by some well-marked peculiarity: in Tahiti (one of the Society group) there are six kinds, each known amongst the natives by some distinct name; in Ceylon four well-marked varieties exist. The Buddhist priests generally contrive to have a number of the choicest kinds in the neighbourhood of their temples, as they not only, like the monks of old, keep a bright eye on the good things of earth, but secure a stock of the best nuts as propitiatory and alms-producing offerings to the passing wayfarer. The *Tembili*, which is a very well-formed handsome nut, of oval form and bright rich orange tint, is usually selected for this purpose; there are also sub-varieties of this nut. The *Nawasi* is slightly heart-shaped, of lighter colour than the preceding, and bears an edible husk: when the outer skin is stripped off, the rind within turns to a pale red colour, and is fit for use. There is another kind which bears a somewhat small and round nut; but in colour much like the Tembili. The fourth description is the common cocoa-nut, too well known to need description. In the cabinets of the curious there are frequently preserved specimens of what has been called the *Double*, or *sea cocoa-nut* (*Ladoicea Seychellarum*), and in old days the most marvellous medicinal virtues were attributed to it, and nuts of this kind were considered unfailing antidotes to all kinds of poison: their origin was veiled in obscurity, as those obtained were either picked up floating at sea or on the coasts of the Maldive Islands, where they were washed by the tides and currents. At one time the most extravagant sums were asked and obtained for them. A merchant-ship, with her freight and stores complete, has been given in exchange for one. £400 have been refused, and it is recorded that the Emperor Rodolph the Second caused an offer of 4,000 florins to be made for one which chanced to be for sale; but that sum being considered insufficient, the precious nut passed into other hands.

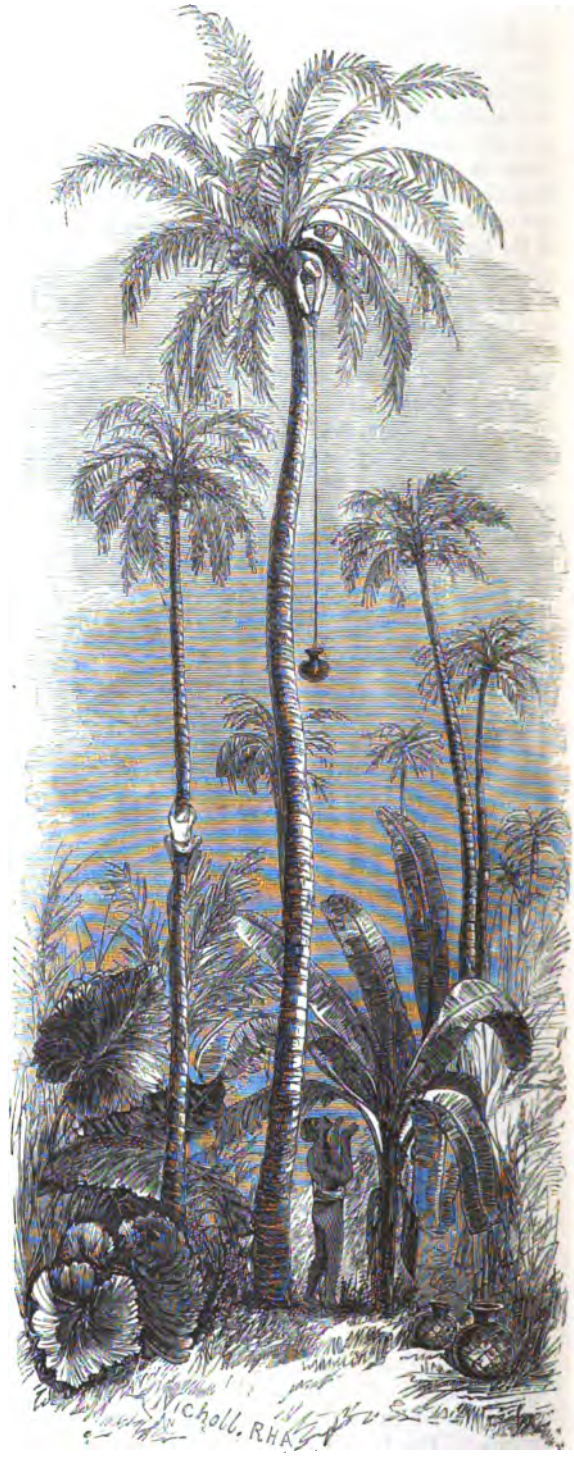
The natives believed that the trees producing these nuts grew at the bottom of the sea, and were enchanted palms, which vanished the instant the adventurous diver attempted to reach them; others believed that huge griffins resided in these magic groves, visiting the land at night for the purpose of supping on elephants and tigers, and spending their time during the day in luring ships within their reach, when they at once made a meal of the mariners navigating them. Instant death was the portion of any secretive native who failed in at once handing over to the king such nuts as he might find on the coast. These, when sold by royal authority, proved by no means an insignificant revenue. The kernel of the nut was the part in which the miraculous medicinal virtues were supposed to reside; and the most ridiculous and anomalous ingredients were mixed with it for use, such as the antlers of deer pounded, ebony raspings, red coral dust, and several other matters equally useless. These once coveted treasures are now by no means as rare as they used to be, being easy of obtainment in the Seychelle Islands, the place of their growth. Attempts have been made to introduce this description of nut into the Isle of France, and there appears no reason why they should not thrive there. The palm bearing it is said to require 130 years to bring it to maturity; this we are somewhat sceptical about. Cups made from the shells are in high repute amongst the more wealthy natives of India, by whom large sums are expended in gold and precious stones for mounting and ornamenting them. The religious mendicants of Ceylon set a high value on these shells, and use them as alms-boxes, believing that there is some attractive influence possessed by the nut-shell which irresistibly draws the contributions into them. If this were really so how great would become the demand for *sea cocoa-nuts*, even in this enlightened island! In favourable situations the palm bearing the common cocoa-nut grows to from sixty to eighty feet in height, but rarely exceeds from one to two feet in diameter at the base.

An upright cocoa-nut tree is nearly as great a rarity as a black rose or blue dahlia; almost every angle of inclination may be seen among the trees forming a grove, the prevailing winds often influencing their line of direction. The roughness of the bark covering the trunk throughout its length is caused by the progressive falling off of the fronds or leaves as the tree shoots upwards, the tufted crown alone retaining the living foliage. Here the graceful fern-like leaves may be seen in every stage of growth and development, the lower tiers drooping, those above spreading out feather-like, whilst the centre stands up plume-like in all its beauty. The nuts grow in clusters, and from forty or fifty to two and even three hundred in different stages of development, may at times by careful examination be counted on one tree. Many members of the palm family produce incredible numbers of blossoms on the spathes, which are thrown up amongst the leaflets of the crown. The sago palm of the Orinoco has been said to have produced eight thousand fruits, whilst one spathe of the date palm has been computed to contain over twelve thousand male flowers. The spathe of the cocoa palm is often nearly four feet long, and six inches in circumference. The annexed cut, on a diminished scale, will serve to show the form of the blossoms, and the manner in which they are encased. In favourable seasons these plumes of flowers are shot forth every four or five weeks, and as the blossoms pass away the young nuts are formed progressively, affording a store from which a hungry or thirsty man may provide and refresh himself all the year round. When the sap of the palm is sought for the manufacture of *toddy* and some other products, the soft young fronds, together with the flower spathe, are bound together with ligatures in order to prevent the development of the blossoms. A puncture is then made at the foot of the spathe with an instrument called a toddy-knife, and numerous taps administered to the neighbour-

hood of the cut with its handle to set the sap flowing. An earthen chatty-pot is then suspended in a suitable position for the cool sweet juices of the tree to



slowly drain. At early morn, before the sun pours down his consuming rays, the toddy-drawer with monkey-like agility again ascends the tree, lowers down his well-filled pot at the end of a string (*vide* cut), and replaces it with an empty one. From two to six pints, according to the state of the weather and other conditional circumstances, are generally collected as the result of one night's running, but the trees thus treated yield no fruit. The *toddy* or *tarce* thus obtained was the *palm-wine* of the poets. Immediately after collection it is extremely sweet and cool; in the course of very few hours a change takes place, and a peculiarly agreeable acidity takes the place of its former luscious condition. In this state it is deliciously refreshing, but in four-and-twenty hours it becomes quite sour. To make *arrack* or *rack* as it is sometimes called, so celebrated in the old days of deep potations, Vauxhall Gardens, and "*crown bowls of punch*," the toddy is fermented and distilled. An inferior spirit is often made from both rice and sugar, being merely flavoured with



cocoa-nut juice, but the imposture is easily detected by the experienced. Vinegar is made by allowing the toddy to stand in earthen jars fitted with

covers for about a month: the liquid, after being carefully strained, is replaced in the jars, and a little red pepper, a small piece of the fruit of the gamboge tree, and a pod or seed-vessel of the horse-radish, which in the East is a tree (*Hypertanthera moringa*), are added to each vessel of fluid. In about five weeks vinegar of most excellent quality is the result. From the sap, before fermentation, when boiled to a syrup with quick-lime, and roughly crystallized, the material known as *Jaggery*, or native sugar, is made. Great quantities of this are both exported and consumed where it is made for the manufacture of the commoner kinds of confectionery. So much for the sap of the tree.

The fruit is consumed in an almost endless variety of ways, and not one single portion of it, or of the palm it grows on, is without a use. The young, green, undeveloped nut, as we have before stated, contains a rich store of cool and delicious drink which, when habitually partaken of by the fair sex, is said by the elderly dowagers of the East to render the complexion permanently clear, remove all wrinkles, and, in fact, like a Madame Rachael of the vegetable world, *make beautiful for ever*. However painful it may be to our feelings to cast doubt on this very agreeable little belief, experience in countries where cocoa-nuts in every stage of growth are easy of obtainment, compels us to state that beauty even in these favoured lands is not invariable; that complexions are not always clear; and that wrinkles are no rarity. Perhaps some heedless fair ones neglect to avail themselves of the potent virtues of the nut *Quien sabe* (*who knows*)? We tread on dangerous ground: so will proceed.

This same liquid, when duly prepared, makes an indelible black dye; the young nuts which contain it also hold within their soft rich crusts, veritable vegetable *Blanc Mange*, so delicious that one is tempted to habitually carry about a spoon in some convenient pocket, wherewith to extract the delicacy. A number of very excellent dishes are made from it. When a short time has passed a species of pulp of firmer consistence is formed, constituting quite a different kind of food, and allowing for the scope of more ingenuity on the part of the cooks; in the South Seas it is often worked up with the Taro root (*Arum esculentum*) into balls as large as thirty-two-pound shot, and baked in the earth ovens of the natives. The kernel of the nut when ripe, and in some respects resembling the condition in which it is usually eaten in this country, is treated in a variety of ways for the preparation of food, and the manufacture of oil, in which it abounds. A perfumed oil in high repute amongst the native beaux and belles of some of the Islands, together with a substantial and durable article of diet, is thus made. The kernels of a large number of nuts are scraped and rasped fine, and pressed through the close fibres of a sort of bag formed by the natural cloth enveloping the embryo nut clusters and young fronds. A sort of soft paste being thus obtained, certain highly perfumed grasses, roots, and chips are procured and well stirred in; the vessel containing the mixture is then placed in the sun, the heat of which soon causes a flow of oil. This on rising to the surface is carefully skimmed off with shells from the beach, and preserved for use. When no more oil is to be obtained, the remaining mass is thoroughly pounded, folded in green banana leaves, made into secure packages, and laid amongst the deep rock pools in the sea, where they are securely retained by placing heavy lumps of coral rock upon them. This prepared paste or "*Kora*," as it is called, retains its goodness for a very long time, and is a food extensively consumed, and to which the Islanders are very partial.

There is another native inhabiting these cocoa-nut isles, who, although no cook, consumes his share, or perhaps rather more, of the tree treasures. This worthy is the "*Ou Ou*," or great robber crab (*Birgus latro*), who, miner-like, excavates deep galleries in the coral sand beneath the roots of the palms or other trees in the vicinity of the cocoa-nut groves, sallying forth in true brigand-like manner to feast on the fruit. Strange tales have been told of these marauders climbing the tall stems of the cocoa trees, for the purpose of detaching and casting down the nuts. We are not prepared to say that certain varieties may not have been known to do so; our own experience, however, leads us to believe that such nuts as fall to the ground constitute the ordinary spoils appropriated by *B. latro*. These his enormously powerful and heavy nippers enable him to husk, and rend from their tough coverings with surprising facility; and it is only necessary to examine a cocoa-nut husk with the nut enclosed, as they are brought to this country, to be convinced that our nut-eating friend must be a sort of crustacean Hercules to be able to drag it forth. And so he is, for the tenacious, wire-like network of cocoa-nut fibre in which the prize is enveloped is split and rent asunder as though with large iron pincers, and the brown nut set free. The end on which the three well-known holes, or *monkey's face*, are situated is then attacked, and a succession of heavy raps rapidly delivered with the large claw. A breach is thus soon made into which the narrow nippers are inserted, and the sweet, white, oleaginous kernel deftly scooped out.

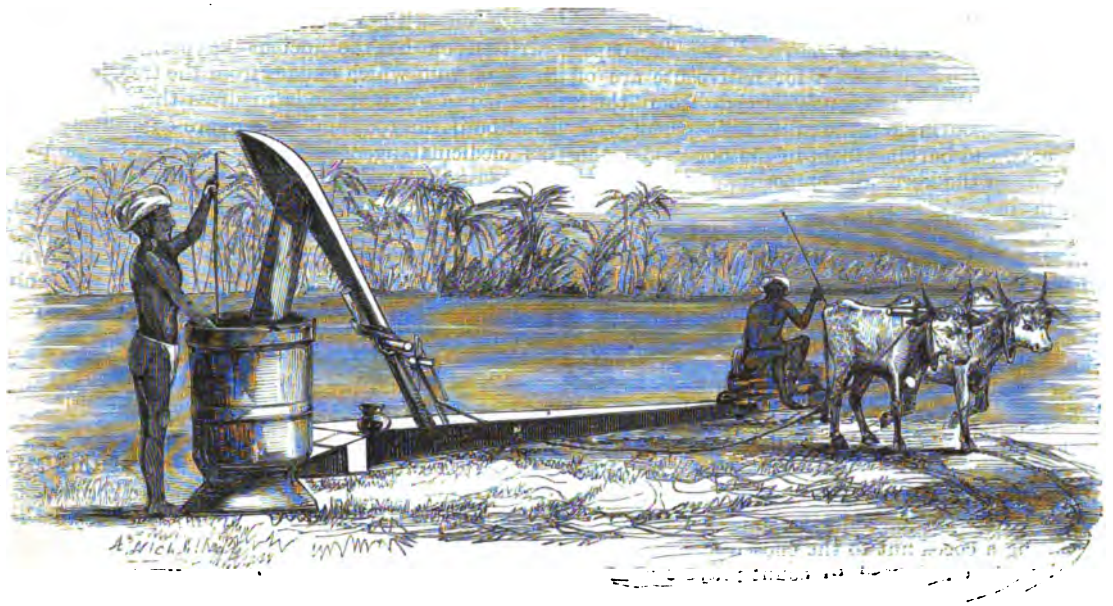
B. latro is not only a gourmand, but a utilitarian: so he cards up the masses of coir, the result of his rending operations, almost as fine as tow, and then transports them to the inmost recesses of his burrow, to form a sort of bed on which to recline, as well as a convenient covering and protection when debarred from the pleasures of society during the progress of shell-shifting. The Islanders are fully aware of his provident habits, and often take advantage of the stores of coir thus collected, making use of them for the various purposes to which fibre of this kind is applied. Nature has wonderfully and wisely provided for these creatures, during periods in which they remain comparatively torpid, stores or magazines of oil, which they carry beneath their tails. Those of some of the large crabs have been known to yield over a quart of excellent limpid oil.

Nocturnal visits are from time to time paid to the sea, but we are not of opinion that, as some

writers have stated, these journeys are performed *every night*. In the breeding season some time is spent by them in and about the salt water pools of the reefs, and the juvenile crabs appear to remain there until strong enough to seek their fortunes with their larger brethren amongst the diggings beneath the tangled roots. When the natives desire their capture they set resolutely to work and dig them out, much as the game-keepers of England proceed with secretive, perverse badgers. Unfortunately for the crabs they are good to eat, and are therefore ruthlessly dragged from their retreats, ignominiously bound with cords (a very necessary precaution by the bye), and carried off into captivity. Some of them grow to a monstrous size, possess nippers of the most formidable description, and often snap the coir ropes with which the crab-hunters tie them, as if they were pack-threads. There are times when a change of diet appears congenial to our friend, when he levies indiscriminate war on all the shell-bearing molluscs he can lay his claws on. He extracts them from their snug shell castles with all the dexterity of an accomplished shell-fish dealer, and then, not content with having eaten up the tenant, he performs a sort of grotesque and triumphal march with the empty house in his claws as if for the purpose of inciting other crabs less nefarious in their dispositions to the perpetration of crimes of a like character: on the whole *B. latro* may be considered by no means a respectable member of the family of crabs, and well deserving of his name. He, however, is not the only robber of the grove, there are several species of coleopterous insects (*Oryctes Rhinoceros* especially) whose larvæ feed on the embryo leaf-buds of the palms and are at times exceedingly destructive to the trees, not uncommonly causing their death. These destroyers hollow out their galleries through the substance of the rolled up bud, and feed on the succulent young fronds before they expand, thereby greatly disfiguring them. The most generally known of these burrowing grubs is the *Tucuma* or *Grugru*, which is about two inches and a half or three inches long, and thick in proportion. It has a hard, black head, and a strong pair of shears-like jaws; but woe be to the luckless colony of Grugrus which may chance to be revealed to the prying eye of the epicurean "black fellow." They are not long allowed to pursue their mining operations, but are lugged forth from their retreats, and either fried crisply like Epping sausages in cocoa-nut oil, or with a little lime-juice squeezed into an empty cocoa-nut shell, made an extempore meal of, by firmly seizing the bead-like head between the finger and thumb, dipping the grub daintily in the lime-juice, and then disposing of the treat, much as we deal with a nicely-shelled prawn and with equal gusto. An ingenious method is adopted by some cocoa-nut growers to rid the trees of the destructive beetles; a number of boys are employed to carefully search for the orifices in the bark; into these, when found, they dexterously insert a kind of beetle-spear, with which each lad is provided; this spear is a long, needle-shaped instrument, with one end barbed like the head of a diminutive arrow or double-bearded fishhook, and the other with a ring turned in it; with this the beetles are either transfixed in their holes or brought forth on the barbs and killed.

The cocoa-nut oil and nut trade throughout the Eastern and Southern seas is of great extent and importance. It has been estimated that the annual importation of merchandise at a place comparatively little known, except by traders (Samoa), in exchange for cocoa-nuts and oil, amounts to £30,000. A vast number of the Polynesian and other islands furnish incredible quantities of both nuts and the oil obtained from them; whilst in the Eastern seas, Ceylon, the Malabar coast, the Seychelle Islands, the Mauritius, and many other islands enjoy an extensive trade either in one or both productions. A number of methods more or less primitive are had recourse to for the obtainment of the oil. In some localities the kernels of the nuts are cut up and boiled in large kettles, then pounded in a hollow tree trunk with a heavy pestle, again boiled, and on the oil rising to the surface it is collected; the contents of about seven nuts thus treated yield a quart of oil. In Ceylon and many parts of the East Indies the quaint contrivance represented in the annexed cut is made use of for crushing the nut kernels; the upright portion in the centre is a sort of round-bottomed cylinder (not unlike a short cannon or mortar) hewn from a block of basalt or other hard and suitable stone; in this the end of a heavy beam of *Baubul wood* is set at an angle and kept constantly travelling round by the bullocks at the end of the yoke-piece. Well do we remember our first introduction to one of these contrivances, and the perplexity and difficulty we experienced to reasonably account for the unearthly shrieks and fiendish sounds we heard when shooting in the jungle. Forcing our way through the tangled thicket, and trailing monkey ropes, expecting to discover it was hard to say what; an open space between the trees was reached and the whole mystery was solved. We beheld a native oil-mill with the patient old buffaloes plodding onwards on their endless journey. We did not, with the headlong valour of Don Quixote, proceed to attack our mill, but sat quietly down on a stone to make a sketch of it, which we, in our prosaic way of viewing matters, thought the wiser course of the two.

When the extraction of the oil is undertaken by merchants or European firms, ponderous iron machinery is erected and used to express it, when about two gallons and a half of oil are obtained from one hundred nuts. Besides that used for home consumption, very large quantities are exported to England, the United States, and other countries, where it is made use of for a variety of purposes, the manufacture of soap and candles amongst them. A great deal of soap thus made in America is sent back to Polynesia to be again bartered for more oil. The dry cocoa-nut chip, after the oil is expressed, is sometimes used as a food for



pigs and poultry, and is an excellent manure. The trees are not uncommonly cultivated with great care; heavy ripe nuts being selected for planting. The young shoot forces its way through one of the eye-holes, and when the young trees are about three or four feet high they are with a little salt placed in pits prepared for their reception.

A strange notion prevails amongst the cocoa-nut planters that the groves are much benefited by having walks arranged and conversations carried on amongst them. "The cocoa-nut tree loves to hear the sound of footsteps and pleasant voices," say they: the idea is a very poetical and pleasant one in its way, no doubt, but, like many others of that order, has its practical disadvantages, as any sauntering, gossiping group would find out to their cost should a ripe well-developed cocoa-nut drop "plump down" on the top of one of their heads. In such a case we are disposed to think the nut would have the best of it, and the thoughts of the luckless saunterer, should any be left to him, would change, like those of Newton when the pippin fell, "from mirth to gravity."

In moderately favourable situations the cocoa palm commences bearing at from ten to thirteen years of age, and remains at full maturity for between fifty and sixty years, producing, at a rough calculation, one hundred nuts annually. The tree then usually begins to deteriorate and fall off in its yield, continuing in this failing condition for about twenty years, when it ceases bearing altogether and shortly dies. It is rather curious that wood of the best quality should be obtained from trees in this state; the *Porcupine wood* of commerce is thus procured, as is the timber of which many of the war clubs and other matters of equipment possessed by the natives are made. The palisades of their fortified villages, the beams, uprights, and rafters of their huts and council chambers are made from the trunk of the cocoa tree, as are the water-pipes used for irrigation, &c. The thatch covering the houses is laid with the prepared mid-ribs of its leaves, and secured with cord twisted from the cocoa fibre; the nets and fishing lines are also made from it; beautifully woven baskets, usually filled with freshly-gathered nuts for the day's consumption, are made from the plaited strips of the leaf; and cocoa cloth protects the fresh green fruit from the sun. Torches are made by binding together a sufficient number of dry leaflets, the end of the mid-rib serving as a handle to hold them by; the trunks of the fruit-bearing palms growing in and about native villages often have numbers of the dry leaves lashed fast to them, so that on any prowling urchin, on plunder bent, attempting to climb the tree, a sharp rustling sound is made and the culprit at once detected. A number of methods are had recourse to for ascending the tall stalks of the palms, according to the district in which they grow. By some persons they are climbed by fastening the two ankles together with a strip of tough bark, making it act as a support by causing it to partly embrace the tree; others cut a row of notches just large enough to admit the end of the great toe, and thus make a sort of staircase of the tree. In some localities a band is cast round both tree and native, when the soles of the feet are applied straight against the trunk, and he literally walks up. The toddy-drawers often throw coir ropes from tree to tree like huge spiders' webs, and then travel about on them much as an overgrown spider would do. An endless variety of beautiful mats are woven from the split leaflets, whilst floor-cloths, bags, and rubbers are made from the fibrous coir of the nut husks and the envelopes of the young fronds. Incredible quantities of coir are now used in this country. The mighty cable, the tough and trusty hawser, and the buoyant life-line are of this curious fibre, some of which may perchance have

been filched from the stores of our dishonest, miserly old friend, *Birgus Latro, Esq.* The cups, bottles, and drinking-vessels for native use are of cocoa-nut shells, ingeniously freed from their contents by pouring out the milk, filling them with salt water, and burying them in the hot sand of the beach, when the kernel decomposes and is removed through one of the eye-holes. Many of these natural vessels are polished with powder made from the burnt kernel and elaborately carved. When mounted with silver they are often used in this country as sugar basins and goblets. Some of the Islanders construct very curious æolian harps from the stretched fibres of the leaves; these they either place about their huts, or on the stems of the canoes, in order that the breeze may play through them. The leaf of the cocoa palm is often used as an emblem of authority, and carried by those empowered to collect any special tribute; and in some districts an offer of marriage is made by presenting a cocoa-nut to the chosen fair one. The lateral leaflets are used to count prayers on, just as a rosary is made use of. When arranged like the leaves of a book, these leaf strips are used to write on with a stylus, much as papyrus was written on by the ancient Egyptians. The *Pia Pia*, or gum which exudes from the tree, is used by the ladies of the islands to dress their hair with, and both the root and flowers are extensively used as medicinal agents. Many of the canoes used amongst the coral islands are composed of cocoa-nut wood; this, when properly grooved and bored, is stitched together with twine made from coir, a slender young palm trunk is set up as a mast, with a rigging of coir cordage; a cargo of nuts, oil, lamp-black, vinegar, sugar, and arrack is securely stowed away, with nut food for the voyage,—

> "The Indian's nut alone
> Is clothing, meat and trencher, drink and can;
> Boat, cable, sail, and needle all in one."

The fresh breeze fills the mat sail, and thrills in plaintive cadence through the harp, the cocoa wood paddle steers the course, and the little Argosy dashes away through the broad sunlight, amongst the crisp-blue waves with her gleanings from the palms. So we bid her and the reader adieu until we meet again to collect together another of nature's cargoes.

THE PARIS EXHIBITION OF 1867.

By G. W. Yapp.

THE Exhibition arrangements have now entered upon their last stage, and on the day that these lines reach the public eye the doors of the Industrial and Artistic Congress will be thrown open, according to promise. Considerable doubts have been raised upon this point, but with no good reason, for the preparations are at least as forward as those of any previous Universal Exhibition, and, as regards the structure itself, far more so.

The building, its glazing, painting, and flooring, were all finished in ample time for the commencement of the exhibitors' fittings, and nothing left to a later moment but the grand vestibule, now completed, the entrances and the decoration of the exterior.

Of the general arrangement of the building we have already spoken, and see no ground to alter our view. The adoption of a curved outline was a grand mistake; it allows of no vistas, prevents any fine perspective effect, produces a most unpleasant sensation in the smaller walled galleries, in which the sides advance or recede from the eye, destroy all repose, and cause an immense deal of extra trouble in the arrangements. To select one glaring instance: there is an admirable system of service railway and tram-ways; the line is brought into the park close up to the building itself, is continued round the whole of the exterior, and is placed in connection, by means of turntables at nearly the whole of the sixteen doors, with two tram-ways, which make the complete circuit of the interior of the great outer gallery or machine court, one on each side. Had the plan of the building been rectangular, the railway would merely have been carried up to the entrance of the machine court, and continued straight through it from end to end.

In an artistic point of view the effect is equally unfortunate; the present edifice is all façade; and what architect, engineer, or artist would undertake to render four thousand feet of frontage beautiful, or even simply elegant, unless he had several years and a rich treasury at his disposal? As it is, half a dozen modes of colouring have been tried, the prevailing tints varying from white to dark maroon or chocolate; but the colouring had little effect upon its boiler-like sides, and the Commission has apparently determined to give a uniform coat of colour. A large portion is now painted with a metallic paint which very nearly resembles in effect black-lead: whether any other colours will be used to brighten up the work does not appear. The only hope is that the introduction of gay flags and other accessories will draw the eye away from the body of the building; and the great pillars are now being dressed with very bold flagstaffs with coloured escutcheons and large gold knobs: when each of them has its bunting, the general appearance will be infinitely improved.

As already stated, there is no grand nave, no magnificent avenue in the building; the only part

in which anything of the kind has been attempted is in the grand vestibule, or principal radial passage, which leads from the chief door to the inner garden, and is bounded on one side by the French and on the other by the British section of the Exhibition. This vestibule is more than three hundred feet long, fifty feet wide, and nearly eighty high; but there is nothing imposing in its appearance. Its roof is of iron, and nearly flat, and the light is almost entirely inclosed from each end, so that the clerestory windows being at a great height from the ground, the lower part of the vestibule is too sombre; and when these windows are filled, as they are intended to be with specimens of French and English stained glass, the vestibule will have more the air of an ecclesiastical edifice than of a crystal palace.

Our neighbours are not to be blamed for the failure in these particulars, and certainly we have good cause for modesty in matters of art; but it is important that failures as well as successes should be carefully recorded for future guidance. The construction of such huge buildings can never be a common event, and therefore each lesson is the more precious.

The French, however, have so much ability in ornamentation, that where the materials or the forms are not unmanageable, they rarely fail to produce a gay and pleasing effect. The inclosed court and garden of the Exhibition, for instance, offered them a fair opportunity, of which they have availed themselves. The surrounding wall is painted in panels, and the upper part relieved by a course of imitation rose-coloured marble, which is exchanged for green marble over the doors leading into the building; the veranda, or *marquise*, which surrounds the garden, is also light and pretty, and apple-green curtains are now being fixed on rods between the pillars, to protect the visitors on the sunny side. The garden within is now laid out geometrically, with one main walk down the centre and three crossing it at right angles; the centres of the four chief flower-beds are occupied by long basins, from which numerous jets of water will enliven and refresh this floral retreat from the Picture Galleries and Retrospective Museum.

The French and English Commissions have entered upon a spirited competition in the matter of fitting and decoration, and the work on each side is now sufficiently advanced to allow of a few critical notes on each. In the first place, the walls of the French Picture Galleries are painted of a low-toned red; those of the English Gallery, of a neutral green or rather olive tint. The former have nearly opaque screens half the width of the galleries, hung from the tie-rods of the roof; thus throwing the centre of the gallery into shade, while the light falls on the walls through white awnings extending from the screens to the walls. In the English Galleries a white awning stretches nearly across, and meets opaque screens at the sides. Here we have two systems which contrast with each other, and the experience of which will be valuable. The general opinion at present is, that whatever may be the relative values of the two plans, there is too much light shut out in both cases. As regards the industrial portion of the Exhibition, the modes adopted by the two commissions are in all respects the antitheses of each other. The French department presents, with few exceptions, a series of courts, or *salons*, each with a design and plan of its own, and in some instances presenting a very artistic appearance; but they are somewhat intricate, and a casual visitor will be extremely likely to miss many things that he would like to see. On the English side, partitions are the rare exception, and the view is nearly uninterrupted all over the court. Standing in almost any position, the visitor will be able to say at a glance, "Ah! there are the beautiful Indian carpets and splendid shawls; I see the colonial riches cropping up there; there is the cut glass; there again are the noble vases from Staffordshire;" and so on;—the world is all before him where to choose, and the pathways are clear and straight. Surely that which is desirable in life in general is advantageous in an exhibition in which no man can see everything, and every one has his peculiar inclinations. There will be no uniformity on the English side, except that a very large proportion of the show-cases will be black relieved with gold, and that all the counters will be covered with maroon-coloured cloth. The management of the space above the avenues of circulation presents the same contrast. On the French side most of the courts are covered with neat white awnings, and the same plan is adopted for the main avenues throughout; so that the roof of the building will scarcely be seen, and the latter will be mostly masked. The English Commission has no awnings, either over courts or avenues; from the top of the cases and counters all is clear to the roof-lights, except where tall objects tower above their neighbours, or where some splendid product of the loom is raised to show its beauties, and the tempering of the light has been managed in a singularly happy manner. In place of white calico, which at first is too glaring, but soon becomes stained and baggy, each glazed compartment in the roof has its own blind made to fit, stretched tightly beneath it. These blinds are not white, but unbleached, and have a diaper pattern all over them, with a garter ornament in the centre, in which the cyphers of Her Majesty and the emblems of the various portions of her dominions alternate with each other. The effect is admirable; and the plan adopted in the British section will render it the best ventilated portion of the Exhibition, which is a very important point.

The original colour of the iron-work in the Industrial Galleries was chocolate, and it still remains so, except on the British side, where it is all visible, and where it would not have harmonized with the colour of the cloth selected; so the whole has been repainted of an olive tint, like the walls of the Picture Galleries.

There is much to do between this time and the opening day, and some complaints about the slow service of the railways on this side of the water

but the work is well advanced, and there is no reason why there should be more than the usual pressure at the last moment.

Every department on the British side is in full activity,—Home, Indian and Colonial, Machinery, Manufactures and Art. In the machine section heavy pieces and foundations are appearing everywhere; and no less than three steam cranes are employed on the rails there. The red jackets of the Royal Engineers recall the exhibitions at home; and the other day these were relieved by the blue cloth of a few of the Royal Artillery, sent over probably in charge of some of our specimens of armament.

In the industrial courts the cases spring up with surprising rapidity, and some of our friends here were struck with the method adopted: they saw the soldiers mark out the floor with a red line, and paint an Anglo-Saxon name in the space; presently they saw arrive on the spot a number of pieces of timber of various shapes and sizes, and the day after perhaps there was a skeleton case in the place, and sheets of plate glass being inserted between its empty ribs. The effect on the minds of our neighbours seemed to be, an impression that there was a considerable chance of Great Britain occupying an excellent position in the field, if not of her absolutely distancing her competitors in the honourable race.

France, Austria, Prussia, Belgium, and other countries, have adopted much the same system upon the present, that they did on former occasions, and, with the exception of what we have already said respecting the first-named, demand no special mention at present; but other commissions present remarkable novelties in the way of ornamentation. The Russian court, for instance, which is quite ready as regards its furniture, presents the most complete arrangement in the building, the whole of its cases, tables, and stands, though varied in shape, are in the same national style, and form an admirable exhibition in themselves; the work is the perfection of solidity, simplicity, and good taste; and, moreover, thoroughly national. It is the usual custom of the country to leave the whole of the surface of the wood of its natural colour, but to colour the interstices and undercuttings; and it was intended to do the same here; but the work itself has attracted so much attention, that M. Grigorovitch, the Commissioner, has, with the advice of several artists, determined to leave the furniture as it is, in order to exhibit the design and workmanship in its purest condition.

Sweden and Norway stand back to back with Russia, and Denmark faces the former. Each of these will exhibit a mass of highly characteristic woodwork, but of a totally different class. It should be mentioned, by way of parenthesis, that as each country has a long strip of space bounded by radii of the building, each presents a very long façade, and this has been taken full advantage of by very many of the commissions. Russia only marks her frontage by a low wooden railing and a series of banner frames; but Sweden and Norway, and several other countries, present a long architectural front. That of Sweden is solid, like the wall of a fortified town; bold arches with overhanging penthouse roofs, odd spires, and castellated work, all speak of the middle ages. Denmark faces her with a frontage of northern renaissance; large flat arches with pine-apples or grapes pendent from the keystone, give the court rather a Bacchanalian air. Portugal also presents a long façade in woodwork, with arches of the same form, but with ornaments, again, of a totally different character.

The geography of the Exhibition is curious. From Germany, passing through Switzerland, we get into Spain and Portugal; then to Greece, Denmark, Sweden and Russia, and Italy. The last-named commission is not quite so far advanced as some of its neighbours, but promises to make a goodly show. Beyond Italy are the Danubian Principalities, Turkey, Egypt, Morocco, and Tunis. Each of these countries makes a thoroughly characteristic exhibition; each has a frontage of the same length, though the depths of their courts vary from two to twenty or more feet, and all are ready, or will be by the opening day.

The Danubian Principalities have never before, that we recollect, taken part in a Universal Exhibition, and we do not know whether the decoration adopted is strictly national, but it is very showy and effective; the façade is composed of a series of arches, and the decorations consist of interlaced work, and foliage in brilliant colours on a dark-blue ground.

The next court is at once recognized by a tablet bearing the Sultan's cypher in gold on a scarlet ground, and the court, which is of considerable size, is laid out with a series of small shops, like those of the bazaars at Constantinople, on one side, and with counters, stands, and *étagères* on the other. The decorations of this court are not yet finished, but the framework and such ornamentation as is executed have the true Oriental air.

Egypt occupies a much narrower space than that of its suzerain, but its façade is highly characteristic, and almost completed; the ornaments are of the kind with which we are well acquainted, and the whole is being brilliantly coloured.

The next slice of the Exhibition is divided between Morocco and Tunis, the former appearing for the first time in such an exhibition. Here we have the horse-shoe arches, and a perfect blaze of colour; each commission has divided its space into two or three pavilions, all of which are covered within and without with geometric patterns of the most brilliant hues, surmounted by inscriptions and paved with parti-coloured cements. The painting in these courts has been executed by native artists, whose Oriental figures and garments have been a source of great curiosity with the visitors. The group thus summarily noticed, presents very curious features and striking contrasts, and will certainly form one of the most interesting portions of the Exhibition.

Between this gay troop and Great Britain there lies only America, which makes but little show yet. The frontier of the British department will vie in

splendour with its neighbours; here the India Board is setting up its cases, and the shawls, muslins, embroidery, and carpets of our Indian possessions need fear no rivals under the sun. England herself, too, promises to show more art than usual, or rather a greater proportion of art than usual, especially in connection with house and ecclesiastical decoration. The Art-Manufactures court is beginning to take shape, and promises to be rich in decorative work in wood, metal, and terra-cotta; but the great show of works in the last-named material is to be found elsewhere. In the great machine court, two specimens of the new Museum at South Kensington, now being erected, attract attention, and the pieces of terra-cotta are much admired for their colour and the sharpness of their outlines: when finished, these architectural specimens will be sixty feet high. Another kindred work is just commenced in the garden; namely, the temple to shelter the boilers which are to supply the machinery of the British department with steam. The boilers are all in their places, and the columns, which are of terra cotta and each in one piece eight or nine feet high, very slender and highly decorated, are now being set up. If the other parts of the structure are as good as the columns,—and the mass of pieces of terra-cotta seem to promise that they will be,—this temple will be one of the attractions of the park.

Close at hand is the Queen's Pavilion, as it was first named, or the English Cottage, as it is now generally called. It is neither a royal pavilion nor a cottage, but it is a characteristic building, exhibiting the features of English domestic architecture, the materials of such structures, such as cut bricks and tiles, and the methods of construction. Until the work is a little further advanced, it is impossible to say what will be the general effect; but the details which are finished hold out good promise: there are five stacks of chimneys,—one square, the others clustered; and nothing can exceed the elegance of these monumental chimneys, which are extremely complicated in form and beautifully sharp in outline; they are, moreover, capped with terra-cotta shafts, some white and others red, which are singularly graceful. Workmen are now busy decorating the front with encaustic tiles and tile mosaics, which are at once novel in style and gay in effect.

In the French part of the park the *Renaissance* house is now a very picturesque and beautiful object; it is a large structure, with a rusticated basement of imitation stone—*béton aggloméré*,—two main floors, and a dormer story. In the front is a projecting bay with gable, and at one corner a large tower, which will probably support a *belvedere;* the roof is sharply pitched and overhanging, the dormer windows are very bold, and beneath is an elegant veranda or balcony. The whole framework of the house is of oak, charmingly designed, and put together in a most artistic manner, and the whole of the woodwork is unmasked, the interstices between the timbers being very small and filled in with plaster, party-coloured white and grey.

The Sultan's mosque is another elegant building approaching completion. It has a graceful dome and a tall minaret, with the *muezzin* gallery. Two of the angles of the building have circular pavilions projecting boldly from the main structure, and these, as well as the door and windows, are profusely decorated with arabesque ornamentation. It is a complete reproduction of the Eastern mosque, down to the small grated window, whose office seems rather to exclude than to admit light.

Behind the mosque of his suzerain stands the imposing group of buildings of the Pasha of Egypt, which have already been partially described in the columns of NATURE AND ART. The interior of the Great Temple is being covered with copies of the mural paintings of Upper Egypt, and the exterior is elaborately decorated in colours, the caps of the columns of the front representing the face of the goddess who seems to have held in Egypt the place of the "goddess Juno with the cow's fair eyes." The building which is to include an Eastern café and the Viceroy's pavilion, is also approaching completion, and will present a rich mass of Oriental decoration analogous to that of the Sultan's mosque. Still further in the rear is the Fellah dwelling, with its cattle-shed, which is intended to exhibit the habitation and arrangement of a peasant dwelling of Lower Egypt at the present day. The Russian and Swedish structures are now almost completely finished, and create great interest; but as these have already been described in our columns, notice of the details connected with them must be deferred to a future period. One of the most conspicuous buildings is that of the Bey of Tunis; it is a structure as large as the town-hall of a great city, and will contain not only a museum, but workshops, a collection of wild animals, and a divan for the Bey, should he visit Paris. It is rectangular, with small cupolas on each side of the façade, and a bold flight of horse-shoe-shaped steps leading to the grand entrance. At the other end of the park the Dutch Commission has just completed a special gallery for its pictures, and a workshop in which the process of cutting and polishing diamonds is to be exhibited. The Swiss, too, are hard at work on their picture gallery.

The French electric iron lighthouse has the framework of its lantern in place, and forms a very striking feature in another corner. This will not be the only electric lighthouse in the park; the English Commission has brought over the framework of another, in wood, which will be erected immediately, so that two systems will be submitted to the judgment of the assembled world.

The *reserved garden*, or, in other words, the horticultural portion of the Exhibition, exhibits as much, if not more, progress than any other portion; the hothouses and conservatories, one of very large size, are nearly all finished, and some are being glazed: they amount to twenty or more in number, and are of all forms and sizes.

The two great aquariums are also finished as regards the main portions of their structure; and now that the whole of their arrangement is visible,

they are even more remarkable than the accounts of them led us to expect. They will contain an immense number of specimens, and the two systems of construction — one consisting of a series of niches in the sides of a large cavern, while the other consists entirely of iron and glass, open to inspection from the sides as well as above and below—will offer useful means of comparison. The cavern system, as adopted in the aquarium of the *Jardin d'Acclimatation*, certainly shows small creatures to considerable advantage, but it has the great disadvantage of presenting only one face to the world, so that only a small number of persons can see at a time. The other system, on the contrary, will accommodate the largest possible number of visitors. The canal, lakes, cascade, and all works connected with the aquariums are ready.

While speaking of the aquariums and their tenants, we must not forget to state that a number of the great carp from Fontainebleau are to appear in a lake in this garden. Some of these fish are very old and of enormous size, and it is a question whether they will take a great interest in the Exhibition; but the Fontainebleau carp are amongst the lions of France, and of course the Exhibition would not be complete without them.

There will be many other attractions in the garden: large collections of living birds,—a number of humming-birds, it is said, amongst the rest; a botanical diorama, in which representations will appear of rare trees and plants which cannot be shown otherwise; and lastly, though not at all consequently, the jewels of the French crown. These will be exhibited in an iron and plate-glass case, which will be let down at night into a strong safe sunk in the ground. In the centre of the garden will be a pavilion appropriated to the use of the Empress. The shrubberies and flower-beds are being planted and arranged, and the greater part of the walks are already gravelled and in fair condition, so that there is little anxiety about this part of the Exhibition.

Another recent visit has furnished us with yet more memoranda. Stained glass is now being placed in the clerestory windows on the French side of the grand vestibule; the floor is being paved with tiles composed of concrete and asphalte, black, with white figures. The model church has also two or more painted windows in place, and the interior is being brilliantly decorated with sculpture and colour.

To the above may be added a few observations of general interest. The great extent of the building and grounds has given rise to an interesting nomenclature. Of the sixteen radial avenues in the building, one is the grand vestibule, mentioned above, and the others have been named as follows: *Rues de France, d'Alsace, de Normandie, de Flandre, de Lorraine*, and *de Provence* (an extra secondary avenue, which limits the French section, being called the *Rue d'Algérie*), *Rues des Pays Bas, de Belgique, de Prusse, d'Autriche, d'Espagne, de Russie, d'Afrique, des Indes, et d'Angleterre*. In like manner the two great roads in the park are called the *Avenue d'Europe* and the *Chemin circulaire des deux Mondes*. The secondary promenades are called *Avenues*, and the lesser *Allées*, and are named after the French provinces, Scotland, Ireland, the United States, Tunis, Morocco, Japan, Germany, Bohemia, Hungary, Brabant, Zealand, Holland, and other places. The Imperial Commission has also commenced fixing indications, outside the building as well as in the central garden, of the countries to be found in the vicinity of each of the avenues within, the names of all the countries contained in each part being inscribed in very conspicuous characters.

Another arrangement which men of business and others will appreciate, is the establishment of a regular post and telegraph office, with *poste restante* attached; there will also be a branch office in the Club-house, which is situated at another extremity of the park.

The waters of the Seine have not been friendly to the Exhibition. The river was so full for weeks that little or nothing could be carried on by the water-side; two immense sheds were, however, erected some time since, and they are now being filled with gigantic marine boilers, and other apparatus connected with nautical matters. By the side of these marine sheds are several smaller ones, which are intended to contain yachts, pleasure-boats, and models.

In connection with the general arrangement, it may be mentioned that more than five hundred pages of the catalogue are in type in the office of M. Dupont, the printer for M. Dentu, the concessionnaire, and the sheets, as fast as they appear, are, in pursuance of an arrangement with the Commission and M. Dentu, being translated into English, and set up by Messrs. J. M. Johnson & Co., of London. This will be the first instance of the whole of the catalogue of an universal exhibition being published in any other language than that of the country in which the exhibition occurred. Another very great advantage will be that each of these catalogues will be published in sections, each section containing the whole of the exhibitors of all countries in the same group. This is a collateral advantage arising out of the arrangement of the contents of the Exhibition systematically as well as geographically.

Lastly, we may state that the opening of the last preliminary act of the Exhibition has been marked by the opening of two or three of the French cafés and an Austrian beer-house; and in a few days, after taking a walk in the avenue of Tunis or the alley of Japan, the visitor may lunch in Russia, dine in Great Britain, and take his coffee in France.

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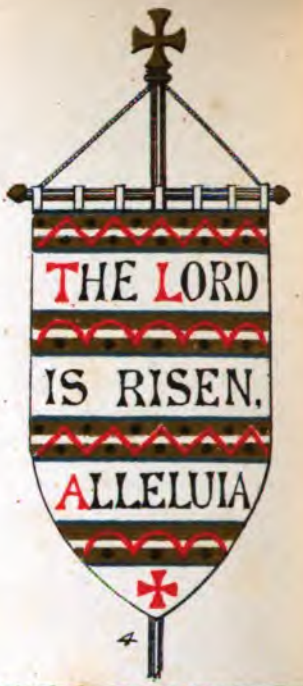
THE LORD
IS RISEN.
ALLELUIA

4

Christ is risen from the dead,
the first fruits of them that sleep.

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6

FLORAL DECORATION OF CHURCHES.

By W. & G. Audsley, Architects.

EASTER.

HAVING in the December number of Nature and Art given general hints in connection with the Floral Decoration of Churches, and directions with special reference to the Festival of Christmas, we have now to say a few words on the decorations suitable for the Easter Festival, which must be taken as a short appendix to our former article.

All the general hints, or those pointing out the methods of arranging and applying Floral enrichments to buildings of the several styles of church architecture which we gave in our Christmas essay, hold good with reference to Easter, as do also the directions for the construction of the devices and general decorations: therefore it is unnecessary to reiterate either here.

Easter occurs too early in the year to enable us to use many flowers in the decorations. Therefore they have still to partake of the Christmas character and be composed, for the most part, of evergreens. It is advisable to use holly more sparingly than at Christmas, with which season it is so closely associated: the other common evergreens, such as laurel, box, fir, &c., may be used *ad libitum*. For the smaller and more choice decorations, holly, from the beautiful and crisp character of its leaf, should still be used; but the variegated species should be preferred, being lighter and more cheerful than the sombre green.

In Easter decoration all the varieties of flowers that can be procured may be used; those which grow out of doors or are more plentiful being adopted for the general decorations, those from the greenhouse being applied to the enrichment of the Sanctuary.

For the Easter Festival it is not so usual as at Christmas time, to carry decoration through all portions of the interior of a church: but there is no reason why the same amount of enrichment should not be provided. Whatever may be done for the body of the church, it is important that, at Easter, the chancel should be decorated richly, and with the choicest materials. On no account should artificial or everlasting flowers be used. Let everything partake of the true character of spring, that season which is in itself a type of the Resurrection from the Dead.

In the decoration of the chancel, the greatest care should be bestowed upon the reredos and the walls, &c., in close proximity to the altar. Where there is a rich reredos permanently fixed, it will only be necessary to decorate its architectural features with flowers and leaves; and, if there should be a cross in sculpture or inlay in its centre, a circular wreath of choice flowers may appropriately be suspended by two very fine wires, so as to surround the centre of the cross. But, where there is no reredos of any importance, a special decoration should be made to occupy the space over the altar, and any amount of care and attention be given to its construction.

As white is the Easter colour, the ground of all devices should be composed of it. Gold and colours, such as red and blue, may be introduced within the outlines of the floral designs, for the purpose of throwing out the leaf-work and giving solidity to the forms; but the general ground should in all cases be white.

The design in the centre of the accompanying plate will supply an idea for a reredos decoration suitable for the generality of churches. The groundwork may be of strong white drawing-paper, or cloth stretched on a wooden frame. The cross in its centre to be formed of choice green and variegated holly-leaves, with large red, and small white, camellias. The main lines of the side compartments and the border round the whole may be of holly or laurel, with the sprigs in the triangular spaces of fir, as shown, terminating in red camellias or roses.

The walls of the chancel to the height of the top of the reredos may be decorated in several ways and in any degree of richness.

Where the chancel is not large and expense not an object, the lower portion of the walls may be covered with white hangings suspended from rods temporarily fixed up. These hangings may be ornamented with coloured devices, such as small Greek crosses, sacred monograms, and symbols, stencilled (in size or thick varnish colour) at intervals all over them, or with a powdering of small floral ornaments composed of leaves and flowers stitched on. The upper edge of the hangings should have a border either of coloured stencilled ornament or of appropriate texts inscribed within coloured lines, similar to that on the centre compartment of the reredos, Fig. 2.

Other ornamental or inscribed bands may be introduced horizontally at equal distances between the top and bottom of the hangings, the powderings being placed in the spaces between them. The bottom should either finish with a coloured fringe or with a broad border of leaves stitched on in some simple pattern. It will of course be understood that, if it is found expedient, these hangings may be confined to the east wall of the chancel, extending over the spaces on both sides of the altar.

Instead of the hangings, an arcade of evergreens, after one or other of the designs shown on the plate (Figs. 5 and 6), may be adopted; or a diaper pattern may be used, as taste and circumstances direct. Designs for diapers were given in the plates illustrating our Christmas article.

The upper portions of the chancel walls may be decorated by horizontal bands of evergreens, me-

dallions, &c., as recommended for Christmas. The medallions must now, of course, contain the appropriate devices for Easter. The Greek Cross is still the most appropriate form of the symbol for medallions and general purposes, but the floriated Latin Cross is the most suitable for the decoration of the space over the chancel arch or east window. Although the Latin, or Calvary, Cross was out of place at Christmas, it becomes one of the important symbols for Easter. The true Eastern Cross, however, is that variety which is termed the Resurrection or Victory Cross. It consists of a cross placed on the top of a tall staff or spear which has attached to it a small white banner, Fig. 1. This cross may be placed as shown on the plate, viz., issuing from behind the reredos, or two of them may be used, one on each side of the reredos aud altar. In almost all representations of our Saviour's Resurrection He is depicted bearing this form of cross in His hand.

Other emblems sometimes adopted for Easter, on the authority of the early Christians, are the Phœnix, the Peacock, and the Lion. These may be depicted on banners, shields, or medallions.

Banners and Shields may be used in exactly the same manner, and to the same extent as at Christmas. They may be ornamented with the following devices in gold and colours: the various forms of the Greek Cross, the Latin Cross Fleury, the Agnus Dei, the monograms of the Saviour's Name with or without crowns over them, the before-mentioned emblems, the entwined triangles, and any Easter texts, as in Fig. 4.

A chancel or rood screen is a most appropriate and beautiful feature at Easter. It may be made of light wooden framework, and be covered with evergreens enriched with flowers. Shields and banners may be used to add colour and effect to it, and a richly coloured and gilded Cross Fleury should in all cases surmount the centre archway.

In the decoration of the nave, our directions for Christmas may be followed in the general details, although it is not necessary to ornament that portion of the interior so fully at Easter.

THE FATE OF DR. LIVINGSTONE.

To the Editor of NATURE AND ART.

SIR,—It was not my intention to have written for publication anything concerning the reported murder of Dr. Livingstone; but, having been requested by several friends as well as by yourself, to express my opinion respecting the credibility of the statement made by the fugitives to Dr. Kirk, I do not feel that I should be right in withholding it from those who may flatter me by attaching some value to the few remarks I have to offer. Perhaps it may be best to state the impression on my own mind at once, and then to cite such incidents as have influenced me in forming it.

I should be loth to abandon all hope of any African traveller until his death were certified by evidence that left no room for doubt; and in this I agree with Sir Roderick Murchison, who, in his letter read by Sir Henry Rawlinson at the late meeting of the Geographical Society, refers to the many travellers who have returned safely after having been reported dead—in many cases by deserters from their service, who, to account for their return, would not hesitate to concoct a plausible fiction.

At the same time, I must confess my fear that the melancholy intelligence is true outweighs my hope that it is false; and this because, from my personal knowledge of Dr. Kirk, I cannot think that, with the opportunity of cross-examining nine men who all protest they helped to inter the body, he would have failed, between the 5th and 26th of December last, to have broken down the evidence had it been untruthful. Still, I know how cleverly and circumstantially the natives can get up the history of such a scene; and, until Dr. Kirk's letters containing the details of the narrative arrive, or further confirmation be obtained from him, I would not quite despair of the life of the great explorer.

There is hardly a traveller that I have known in Africa whose death has not at some time or other been reported. Perhaps his native servants, terrified at his audacity in pushing onward toward some tribe renowned for prowess and ferocity, actually believe that he is hastening to his death, and that it would be madness to involve themselves in his fate. Their own fears gradually convert themselves into a self-deceptive certainty, confirmed perhaps by some rumour that may overtake them as they return. Or, if not so confirmed, their tale, truthful enough perhaps up to the time they left, needs only the addition of a few incidents, easily suggested to the native mind, to involve in grief the friends of the traveller, who may be safely pursuing his journey. Sometimes a more clever or less timid servant will profess to be the bearer of important letters which he will show to none but the person they are for, and thus is assisted on his way by natives and by colonists until the imposture is discovered. Many cases of this kind have happened within my own knowledge or that of my friends. My own life has been made the subject of a bet, and the first person who met me on my return greeted me not less heartily because my safety proved him the winner of the wager. The safety of Mr. Chapman and myself was at one time almost despaired of; and in the *Cape Advertiser* of December 17th, 1863, it was stated, on the authority of a letter from the governor of Senna, that Dr. Livingstone, who had started for Lake Nyassa in August with a party of only five Makololo, had been murdered. Another report was that he had been dangerously wounded in a fray; but the editor very sensibly appended a remark that Dr. Mellor, who arrived in safety with the letters, had also on a previous occasion been reported dead.

These instances will be enough to show that the reported fate of Dr. Livingstone is still open to doubt; but on the other hand I cannot see sufficient inconsistency in the short abstract of the narrative already published, to warrant an imputation of untruthfulness. Dr. Livingstone had previously been deserted by, or had dismissed, the servants who accompanied him from India. The buffaloes brought from the same country in hope that they would withstand the attacks of that deadly cattle pest the Tsetse fly, had died. He was still accompanied by the Johanna men, and had most probably also hired native porters to carry his necessary stores. Little or no regularity of march would be attempted. Rough and narrow foot-paths would wind through forest or low bush. The Doctor, it is said, with half his party, was in advance when the attack took place. Probably those who were behind would hear the noise of the affray even before they came in sight of it. Only one man professes to have seen the fatal blow, and he might easily escape the observation of the parties intent only on the conflict in which they were engaged. That they returned at night is by no means impossible; and, being Mahometans, they would be more likely than native Africans to think of burying their leader. Perhaps the murderers left little that could be brought away

as relics; but the statement that the body bore but one wound favours the inference that, from some cause, they had not indulged in the barbarous gratification of mutilating their victim.

In one instance of the massacre of a peaceful village by a band of Matabili, while Mr. Chapman and I were returning from the Zambesi, the two or three survivors, who had escaped through being absent, told us that at nightfall they not only approached the Matabili army, but actually came near enough to talk to them, having full confidence that they could escape before men starting suddenly from the blazing camp-fires could become sufficiently accustomed to the darkness to see them as they fled.

Still later, when crossing the desert at the end of the rainy season, the anticipated drying up of the scanty pools obliged us to push the oxen across the intervening spaces at a rate which the Damaras, enfeebled by recent fever, could not keep up with. We could not send them in advance till a track had been marked by the passage of the wagons; and the convalescents, attended by a number of healthy men, were allowed to follow at their own pace while we waited for them at each successive water. The country was, at that time, full of the edible roots on which they chiefly live; and, faring well as they came along, they were in no hurry to overtake us. At length, they failed to come up to us; but, anticipating no danger, we left food for them at each halting-place, and on reaching the Bō-tlét-lē river, Chapman paid the headmen of the villages in advance for supplies to be furnished as they came up. Henry Chapman joined us at the Lake Ngami, and a wagon with provisions was immediately sent back to their assistance; but, alas! only two men and two women were found alive. They, being a little in advance of the rest, had slept separately, and returning in the morning had found their unfortunate country people lying murdered at their bivouac. A party of marauding Matabili had penetrated into the country we had deemed perfectly secure from them, and eighteen or twenty men and women of our little party had become their victims. In terror and bewilderment the survivors resumed their journey, when the murderers, revisiting the scene of slaughter and finding fresh foot-prints, followed and robbed them of their little ornaments; but satiated apparently with blood, allowed them to depart, charging them to tell Chapman who it was that had killed his people.

These MATABILI, who, under the despotic chief, Moselekatse, have for more than thirty years been the scourge and terror of the native tribes to the south of the Zambesi, are of the same stock as the MAZITE, or AMAZITU, mentioned by Dr. Kirk. Both are offsets of the AMAZULU, or ZULUS, occupying the country of Natal; and it would be interesting at some other opportunity to consider, in connection with the southward migration of the Kafir tribes—pressed onward, probably, by the progress of the Arabs in their rear,—this reflux of the Zulus to the North. The Mazitē crossed the Zambesi near Shupanga, perhaps ten or fifteen years ago, and spreading the terror of their name by indiscriminate massacre as they passed northward, settled, at last, in the country to the west of Lake Nyassa, in latitude between 11° and 12° south. Mr. Horace Waller, who was one of the mission under Bishop Mackenzie, tells me that during the war the Mazitē took part with the Ajawa, and that some of their shields were found either on the field or in the huts they abandoned.

If the MAZITE have in reality committed the crime, as we have too much reason to fear, the cause of their hostility to Dr. Livingstone may be traced to his endeavours to suppress the slave trade. It will be remembered that in January, 1861, the Oxford and Cambridge mission reached the mouth of the Zambesi, and were met by Doctor Livingstone, who acted as their guide and adviser. A short trip was made to the Rovuma, a river to the northward, but the party returned to the Zambesi, and in the steamer *Pioneer* commenced the ascent of its tributary the Shirē (or Shēērēē). Here intelligence was received of the recent passage of various gangs of slaves, and another gang, bound to Tette, arrived soon after Dr. Livingstone had reached the village. The black drivers took to flight as soon as they saw the faces of the English, and the captives contrasted in astonishment the humanity of their liberators with the brutality they had hitherto experienced, and these people eighty-four in number became the nucleus of the intended mission village. Other parties were followed up; the drivers, many of them agents for Portuguese in Tette, were detained, but eventually escaped, and a collision took place with the Ajawa tribe, who were returning in triumph with a long string of Manganja captives.

The mission was settled among the Manganja tribe, who, after the departure of Dr. Livingstone, appealed to Bishop Mackenzie to assist them against the continued raids of the Ajawa. At first he declined, but at length, moved by the natural feelings of humanity, consented, with the full approbation of his colleagues. I do not pretend to decide whether it be wrong for a clergyman to engage in war; but if he erred, he, as well as the Doctor, in the liberation of the slaves, did so on the right side; and I fancy that few Englishmen placed in the same circumstances would have done otherwise. The Bishop, in his journal for August 27th, 1861, states, as his reason for consenting to lead the Manganja force, that they were attacked by marauding and murdering parties of Ajawa, who were constantly burning their villages, slaying their men, and carrying off captives to be sold to traders from Tette. At the same time, he says that the Manganja were nearly as bad; and using this opportunity he stipulated that, in return for his services, they should cease to sell their own people or encourage slave traders amongst them. He says that on the 13th, with the unanimous consent of his party, he proceeded to meet the enemy, and, appointing Waller to command in the actual fight, went unarmed with him to seek a parley with the opposing chiefs. The attempt failed; but in the succeeding battles the Ajawa were defeated, and among the spoils were found shields of the Mazitē, who had joined them. The Manganja, in spite of the efforts of the English, behaved in victory as savages will, and violated their agreement by killing or retaining in captivity a number of women and children; in consequence of which, the Bishop refused again to lead them, though in the following January (1862), he was compelled to punish a petty chief who had attacked a party sent to explore a path by which to bring up the ladies, who had arrived at the Zambesi with the intention of joining the Mission. The unfortunate death of Bishop Mackenzie and Mr. Burrup, in consequence of hardship and exposure, took place soon afterwards.

Dr. Livingstone and his expedition had meanwhile explored Lake Nyassa and its western shore; and in about 11° 40′ S. he fell in with a few Mazitē, who, failing in their attempt to terrify him, became themselves alarmed and fled, though others gave much trouble both to the land party and to Dr. Kirk, who was at that time in charge of the boat. The country around was desolated by these savages, and strewed with the skeletons of their victims. The fountain-head of the slave trade seemed to be there. Two Arabs had built a dhow upon the lake, and were running her, crowded with slaves, regularly across it; and it is said that 1,900 from this locality pass annually the custom-house at the Arab port of Zanzibar, exclusive of any sold to the Portuguese. On the melancholy events which led to the abandonment of the Mission, the prostration of most of the party by fever, the death of Mrs. Livingstone (herself the daughter of Moffatt the missionary pioneer), and of the accomplished young geologist, Richard Thornton (induced by the hardships of a journey undertaken to procure animal food for his perishing friends), and on other sad details, I have not space to dwell. My object in citing the foregoing facts has been to show the possible cause of the hostility of the Mazitē; and they afford, I think, sufficient evidence that a feud not likely to be forgotten already existed between the Mazitē and the English, even if the predatory habits of the former were not sufficient to incite them to attack the weak and overburdened party with which Dr. Livingstone (travelling from the east coast, and having already passed the northern end of Lake Nyassa) was traversing the borders of their country. It is not improbable, too, that their hostility would be fostered by persons interested in the continuance of the inhuman traffic he so strenuously endeavoured to suppress. For the majority of the real Portuguese whom I

have known in Tette,* I think I may say that they would regard with the same horror as ourselves a dastardly attempt to make the savage an instrument of assassination, and will look on the reported murder of the Doctor with equal indignation; but on this point I would refrain from dwelling till the expected letters of Dr. Kirk inform us of the details he has been able to collect.

The career of Dr. Livingstone as a traveller and a philanthropist needs no eulogy from me, neither am I the man from whom it ought to be expected; but as one who, for however short a time, has travelled with him, I may express my admiration of his many excellences, and pass as lightly as possible over the failings which served as foils to them.

His energy and perseverance as an explorer could not fail to be appreciated by every one, and his self-reliance and power of adapting himself to new emergencies were shown when, having been led by false reports to dismiss from his expedition men who with heart and hand were helping him to their utmost, he applied himself energetically, if not altogether successfully, to the various tasks thus needlessly devolving upon him.

His life may be said to have been devoted to the cause of the native Africans, among whom he lived till he almost identified himself with them. Warm-hearted, generous, and self-sacrificing, his indignation at the wrongs they suffered led him not unfrequently to injustice towards the colonists, the majority of whom would look with abhorrence equal to his own on such outrages as individuals occasionally might be guilty of. As to his disregard of personal interest, it is sufficient to state that, in addition to the funds supplied him by the Government and by sympathizing friends, the greater part of his own property was spent in the prosecution of the course he considered it his duty to pursue.

While there yet remains a ground for hope, I would fain, in common with the friends of science and philanthropy, indulge it to the utmost. If, as I much fear, the report is true, all private differences must be merged in heartfelt sorrow for the great explorer. If not, no one will rejoice more heartily to welcome his safe arrival, or to meet him in England, than,

Sir, yours truly,
T. BAINES, F.R.G.S.,
Late Artist of the Zambesi Expedition.

20, Northumberland Street, West Strand,
14th March, 1867.

March 18th.—The detailed letters from Dr. Kirk have arrived, and state that the party, having crossed a marsh at the north end of Lake Nyassa, were passing through a wooded country when the attack took place. Still later information from Dr. Kirk will be read at the meeting of the Royal Geographical Society on Monday next.

* Tette is the chief town on the Zambesi river, in Portuguese territory, nearly 300 miles from the sea.

REVIEWS.

Les Insectes. Par Louis Figuier. Ouvrage illustré de 605 figures. Paris and London: Hachette & Cie. 1867.

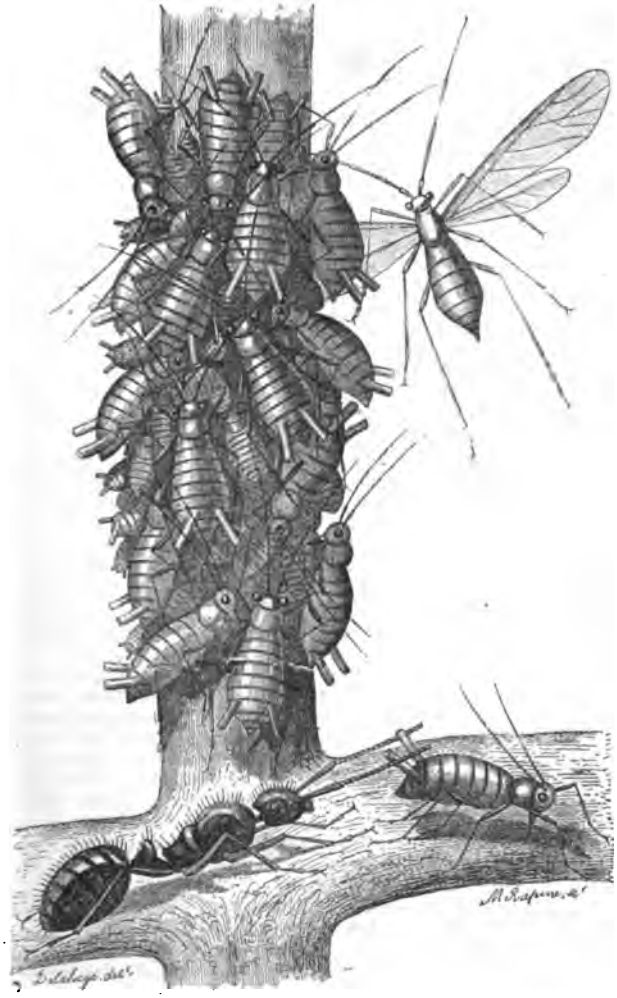
IF we glance at the animal world in its entirety, we find that its various members range themselves under five principal divisions, which are known to naturalists as sub-kingdoms. Beginning with the lowest, we find such forms as the sponge and infusorian animalcules, which possess little more in the shape of digestive organization than an extemporized stomach; these, with some others, form the first sub-kingdom *Protozoa*. Then we find the polyps, sea-anemones, jelly-fishes, hydræ, and corals, forming the sub-kingdom *Cœlenterata*. Next in order we have those soft creatures, generally provided with an outer covering of shell; these constitute the sub-kingdom *Mollusca*. The worms, spiders, leeches, centipedes, and insects belong to the sub-kingdom *Annulosa*. Lastly, we have quadrupeds, birds, fishes, and reptiles, which, being provided with a backbone made up of what anatomists call vertebræ, are styled *Vertebrata*. It is with the sub-kingdom Annulosa that we have to do in the present article. The creatures belonging to this section of the animal world are distinguished from all others by having the body divided less or more distinctly into a number of rings or segments, which are placed end to end. They comprise a number of sub-groups, called classes, which may readily be distinguished by well-marked features. It is to one of these classes we are about to introduce our readers,—that of *Insecta*, or insects, as they are generally styled. An insect may be defined to be a six-legged, air-breathing, ringed animal, having its body divided into three separate parts, head, chest, and belly, and being usually provided with wings. This definition is, we believe, unimpeachable, and having given it, we may therefore pass on to the particular divisions of the class in which the species forming the heading of this page hold their place. Insects are of two sorts,—those in which the mouth is made for suction and converted into a proboscis, and those in which the jaws and their corresponding parts are separate from each other, so as to admit of chewing and eating movements. Now the Aphides belong to the former, and the Ants to the latter; the one coming under the order of Bugs (*Hemiptera*), and the other to the tribe of Bees and Wasps (*Hymenoptera*). Having given these preliminary and somewhat dry, though necessary, particulars, we now come to the Ants and Aphides themselves.

The study and pursuit of insects have from a very early period in the history of civilization possessed great fascinations for lovers of nature. The wonderfully complex construction of these creatures, their singular habits, their extraordinary varieties, their almost human intelligence, their remarkably arranged homes, their brilliantly coloured garments, their peculiar sounds, and, above all, their astounding metamorphoses in passing from their juvenile to their mature condition, have given them an interest to the student of natural phenomena such as no other animals present. In no department of entomology are all these qualities of insects seen in a higher degree of perfection than in the group of bees and wasps, to which the singular little creatures we are about to describe belong. In this order we have numerous examples of the beautiful hues, strange habits, and remarkable instincts of the insect, and few of its members exemplify our remarks more fully than the ants (*Formicidæ*).

There are not many of our readers to whom the common ant (*Formica rufa*) is not familiar. Who in his summer rambles through the fields has not fallen on an ant-hill—a little mound of earth rising from the level plain—a veritable subterranean city, full of life, and busy with the thousand labours of an industrious population? Who has not seen the little, brown, active creatures running to and fro apparently in confused bustle, but really moving according to a system of rigid discipline that would do credit to a human populace? Who has not watched their movements and wondered at their industry and ceaseless activity? The ant is an insect of the gregarious type; it lives in colonies, and like the common bees and wasps differs from its fellow species in many particulars of organization and mode of life. The reader who desires to follow out the subject should consult the beautiful volume which has just been published, and on which we found this article. But we shall try and give a general account of the economy of the ant-hill in these pages. Ants, like most insects which live in colonies, are divided into three kinds,—males, females, and workers or neuters; of these the two first are

ANTS CAPTURING AND MILKING APHIDES.

alone provided with wings, and this is why there is such a general impression that the ant is wingless. The body in all cases is borne upon three pairs of slender limbs, the antennæ or feelers are jointed, and have great freedom of motion. The mandibles or jaws are horny and powerful, and serve as teeth and weapons of offence. The males are somewhat larger than the workers, and the females are of greater size even than the males. Their larvæ, or young, when in the caterpillar condition, spin a delicate silken envelope forming the cocoon. Finally, to complete the general characters of our ant, it is not provided with a sting as is generally supposed, but is capable of secreting a pungent and acid fluid, known as formic acid, which it drops into the little wound inflicted by its scissor-like jaws, thus producing a considerable deal of itching or *formication* (*formica*, an ant), as it is termed. The worker ants, which are both sexless and wingless, are those which engage in all the important labours undertaken by the colony. The male and female are alone concerned with the production of the young; they may be seen in great numbers, in the neighbourhood of ant-hills, towards the end of the summer; when they have completed



SECTION OF AN ANT-HILL.

their metamorphoses, they leave the colony, and flying into the air, perform the functions allotted to them; the males thereupon ceasing to exist, and the impregnated females dropping their wings and returning to the original colony, or forming a new one, and depositing the ova in a place prepared for the purpose. But it is to the workers that we must look as exhibiting the qualities of insects to which we have already referred. It is they who construct the ant-hill, guard its various entrances, provide the "lying-in" chambers for the females, take care of the eggs till their conversion into larvæ, and afterwards feed and watch them with the tenderest solicitude, till in course of time winged males and females appear, and the period of swarming occurs, as in the case of bees.

Among the many remarkable proofs of the ant's intelligence, the construction of its habitation is not the least interesting. The ant-hill varies in point of architectural features according to the species; but in the case of the species to which we have alluded (*Formica rufa*), it assumes the typical shape, and presents itself as a little hill or mound rising some inches above the surface. It is composed of all sorts of débris which the ant finds in its chosen spot,—bits of wood, fragments of leaves, grains of corn, pieces of other insects' skeletons, little bits of broken straw, and such-like. But this elevation is really only a portion of the ant-city, which extends to a certain depth into the soil. If we make a careful cutting through an ant-hill, we shall see hundreds of channels or avenues tunnelled through the ground, and communicating with each other, and with those which traverse the dome-shaped portion of the habitation (see figure). The external apertures of these galleries are very large, but they are carefully barricaded during the night, and on wet days, and are thrown open in fine weather. At first these domiciles consist of a single channel hollowed in the earth, but gradually the number increases. The *worker*-ants tunnel away unceasingly, and carry out the excavated earth in the form of little pellets, till at length a complete labyrinth is formed, corridors, chambers, and halls, often communicating by means of vertical passages, make their appearance, and finally we behold a large central chamber supported by rude pillars of earth, and into which the several passages lead. It is in this latter that we find most of the ants when we open an ant-hill. Generally these hills measure from about a foot to a foot and a half high, and are equally broad; and some writers who take a higher view of the ant's intelligence than we do, look upon them as true fortresses in which each tunnel has a distinct and foreseen relation to its fellows, which are defended by various ingenious devices of construction, and which are always carefully guarded.

We come now to another page in the history of these insects,—to that which describes the production and nursing of the young. The females, who usually occupy a special part of the colony, seem, contrary to the views of those who slander the gentler sex, to live together in the most perfect harmony. In course of time they lay a number of extremely minute, white, spherical eggs, and with this operation end their duties to the colony. To the workers is consigned the important labour of incubating the eggs, and rearing and nursing the young. They take charge of the ova the moment they are laid, and remove them to chambers specially arranged for their reception. A certain amount of warmth is required for the development of the eggs into larvæ, and this is procured by removing the ova in fine weather from the cells, in which they have been detained, into the open air. There they are exposed to the sun's rays —care being taken that too high a temperature is not imparted to them—for some time, and then the ever-active workers remove them to the nurseries. It is this process we see going on in summer time when we disturb an ant-hill. Myriads of the busy little insects may be seen rushing about laden with little white grain-like bodies, of which they take the greatest care, and eventually succeed in carrying beneath the surface. These white, grain-like bodies are the larvæ, and as some of the earlier observers fancied they were grains of cereals, seeds, and such-like, the ant acquired a reputation for thriftiness and providence which it certainly does not deserve. In about fifteen days the eggs are hatched, and

the larvæ make their appearance as little whitish, semi-transparent, ovoid worms. They possess a head and body, the latter being divided into a number of rings or segments which are unprovided with feet. Their mouth is a sort of retractile proboscis, in which we may see the rudiments of the future mandibles, but at this period of their existence it is only employed for sucking. They feed upon the peculiar honey-like fluid provided for them by the workers, who prepare it in their stomachs, and then disgorge it for the nourishment of the young. The most sedulous attention is paid by the worker-nurses to the larvæ, the latter, as we have already stated, being constantly removed from their underground chambers to the outer surface of the ant-hill, where they receive the genial influence of the sun, and thus further their metamorphosis. The nurses, too, advance this phenomenon by gently irritating, rubbing, and distending the skin of the larva with their palpi. Soon this metamorphosis takes place. The little larva spins its temporary greyish-yellow silken coffin, and becomes a nymph, or pupa. Gradually beneath the veil under which Nature conceals her mysterious operations, the larva is transformed into a nearly perfect ant, the proboscis disappears, and is replaced by a set of horny jaws, the skin changes its colour, assumes a reddish-brown tint, powerful and strangely organized limbs are formed, and the head and its appendages increase in complexity of structure. These singular changes all take place, and yet the creature remains motionless and death-like, and when the metamorphosis is complete, the nurses once more commence their labours. They now tear away the curtain and disclose the perfect insect or *imago*, as it is scientifically termed. Nor do they cease their tender exertions. They still continue to watch over the welfare of the new-born, till they are able to take their own place in their little sphere of existence.

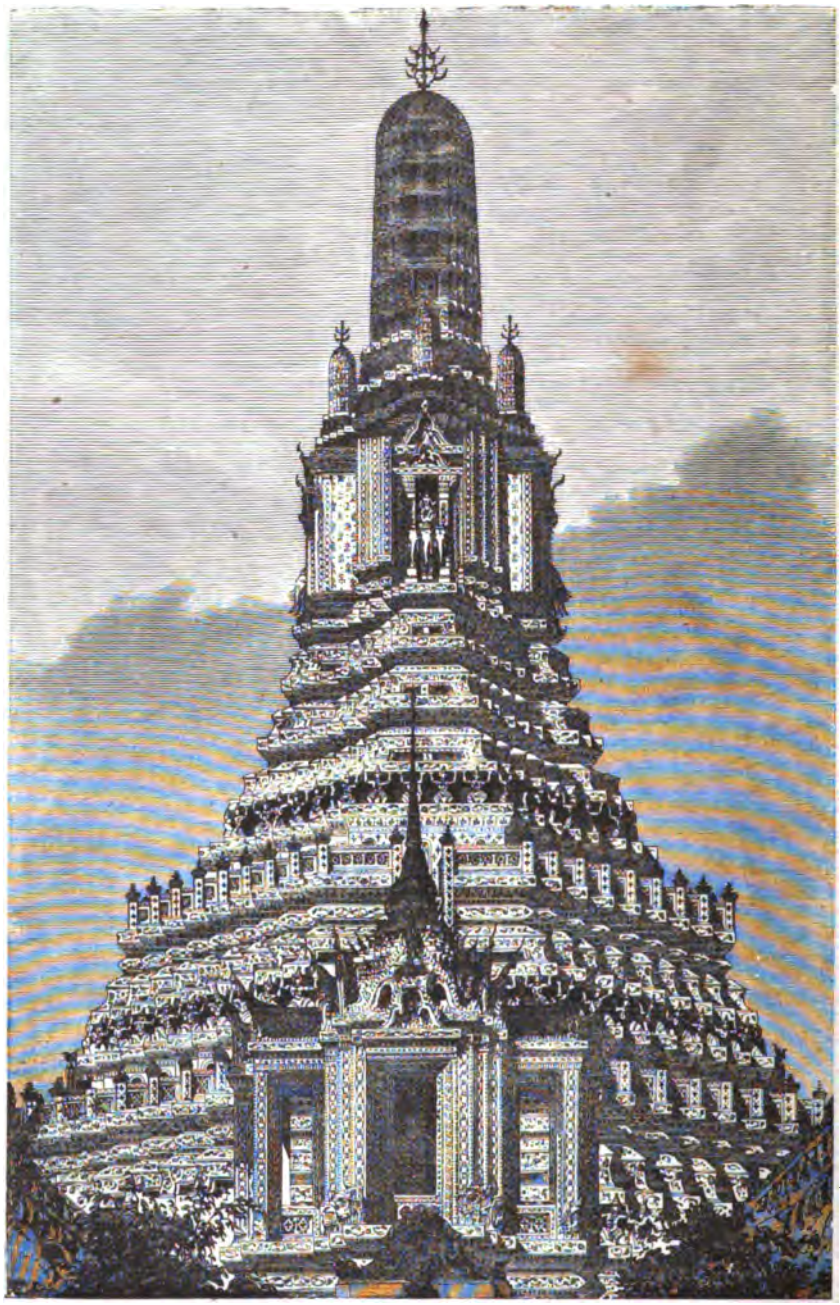
On the subject of the habits of the ant, M. Figuier is very eloquent; and, although he is in most instances supported in his statements by higher authorities, he occasionally treats us to tales which the light of experience and of scientific observation has shown to be fallacious. Still he is always interesting, and generally instructive. Speaking of the dealings of the ants with each other, he gives them credit for the practice of a higher philosophy than that which guides mere human actions. If, he says, an ant is fatigued, a comrade takes him upon his shoulders. Those whose thoughts are too busy with their labours to induce them to search for food, are carefully fed by those who are less occupied. When an ant has received an injury, the first of his fellows that meets him takes him in charge like a good Samaritan, and conveys him to his home. When he discovers a rich mine of food, he does not selfishly keep the information to himself, he tells his companions, and forthwith all join in the festivity. If one of these insects is hungry and cannot procure food, his neighbour, like the Roman daughter of old, feeds him from his own substance—disgorges a drop of saccharine fluid which his hungry companion quickly devours. It appears that in all these cases the feelings and ideas (if we may use the expression) of the ants are conveyed to each other through the antennæ, which by rubbing against each other seem to give expression to their sensations. Finally, to conclude this portion of our subject, we may state that the age of the ant is unknown, but there appears to be no doubt that it may live for several years. Its food is chiefly fresh and decayed fruits, flowers yielding honey, &c.; but the ant will eat dead animal matter, and will even attack other insects and devour them.

Apropos of the food on which the ants subsist, is the second division of our article, that which refers to the *Aphides*, or plant-lice, as they are generally styled. The ants and aphides are in no way related in the sense of affinity; the former are mandibulate or chewing insects, whilst the latter are haustellate or suctorial. But there is nevertheless a very intimate relationship—that of captor to slave—existing between them. Still the relationship is a friendly one. There seems to be no example of harsh treatment on the part of the masters, and the serfs appear to be tolerably contented with the lot that has fallen to them. There are, we imagine, few of our readers who have not seen the aphis, and yet we dare say very few remember what the insect is like, and still fewer know aught of his history. If any one who plucks a rose from a rose-bush takes the trouble to look at the stem and leaves, he will, in nine cases out of ten, find it covered—almost to swarming—with small green insects, generally devoid of wings, and of a hue resembling that of the leaf. They are curious, though hardly handsome objects, and the observer finds them so sluggish in their movements, that so far from attempting to make their escape they allow themselves to be crushed in hundreds beneath his fingers. If the observer is sharp enough in point of perception, he will find that the leaves on which these insects have rested, are covered over with little drops of a miniature dew which has a sweetish honey-like flavour, and if he pushes his inquiries further, he will discover that the insects and the drops stand to each other in the relation of cause and effect. The aphides leave this deposit on the plants, but how? This is the question which the earlier naturalists, Linnæus, Bonnet, and Pierre Huber, were long seeking to answer. But we may fairly presume the ants had answered it for themselves in even pre-Adamite ages. The aphis presents at the extremity of its abdomen, a couple of little moveable tubes which appear to be connected with a sugar-secreting gland, and if we carefully watch these, we shall see from time to time that a small gelatinous drop exudes from their open ends, and falls upon the leaf. Now it also happens that in nearly every case where aphides are clustered upon a stem or branch, a few ants may be seen running nimbly here and there among their lazy neighbours, and if we look closely, we shall see that the ants are not there by accident, but that they have come in search of the little sugary droplets which exude from the abdominal tubes of the aphis, and of which they appear to be immensely fond. This, then, is the secret of the affection which the ants have for the aphides—the latter are a sort of milch cattle which supply them with food. Frequently the ant waits patiently till the aphis drops its sugary secretion, and then it licks it up greedily. But it also often occurs that it stimulates the aphis to give out this secretion, in order to satisfy its desires.

The careful observations of Pierre Huber* proved, beyond question, that the ant knows that by gently touching the abdominal tube of the aphis it can cause the latter to eject the peculiar fluid, which is secreted in its gland (see Plate). And that it makes use of this knowledge is a certain fact, which has been over and over again corroborated by naturalists. The ant doesn't endeavour to irritate the aphis; it simply touches its tube with a gentle stroking motion which seems to soothe the gorged insect and promotes the discharge of the saccharine droplet. In fact, the aphis appears to enjoy this process of milking, and the ants, to use a modern expression, utilize it. The next feature in the relationship of these two insects is the bondage of the aphides. Singular as the fact may seem, it is still perfectly true, that the ants capture the aphides, bear them away, often on their backs, to their underground dwellings and keep them there, not indeed as prisoners of war, but as a Southern planter used to keep his slaves, or as we keep our cattle. They treat them with no harshness, nor do the captives appear to suffer any discomfort from their captivity. They are provided with chambers of their own, and save that they are compelled by their masters to yield the delicious secretion which they value so highly, they fare in all respects as well as any member of the strange community in which their life is passed.

There are many other traits in the ant's nature which well deserve attention, but to which we cannot refer here. Those interested in the matter should pursue the study practically to pursue it profitably. Indeed the whole insect world is peopled with creatures, each of which should have a history of its own, were insect intelligence to receive its due. But as few of us can be practical naturalists beyond a limited extent, and as many are desirous of knowing the leading principles of the science of entomology, and some of the curious facts in the history of insect instinct, we cannot do better in conclusion than say that in

* *Recherches sur les Mœurs des Fourmis indigènes*, a work often quoted in M. Figuier's pages.



THE GREAT TOWER OF THE PAGODA WAT-CHING, AT BANKOK.

M. Figuier's volume they will find reading to their heart's content. Although in some respects (we allude more particularly to the department of physiology) the work has defects, yet, taken all in all, it is one of the finest, fullest, and best illustrated popular treatises on entomology we have yet seen.

A History of Architecture in all Countries, from the earliest times to the present day. By James Fergusson, F.R.S., &c. &c. John Murray, Albemarle Street, 1867.

THE time is not so very long since architecture was taught as being wholly comprised in five orders. There were the Doric, Ionic, Corinthian, Composite, and the Tuscan. The Gothic might have been mentioned; but the authorities of the time would only tell you that, being so very barbarous, it ought not to be included in the word architecture. How wonderful is the change. The Gothic has completely taken the place of the five orders, so much so, that some of the most modern architects know little more of them than their names. With this change there has also come the knowledge that there were many other styles of architecture in the world, all of them as important as those of Greece and Rome. It is now clear that the architecture of Greece cannot be properly understood without a previous study of Egyptian on the one hand, and of Assyrian on the other. Gothic appears in Venice allied to Byzantine, and the Byzantine again is allied to the Arabic. The Assyrian and Persian lead

VIEW OF EXTERIOR CORRIDOR, NAKHON WAT.
From a Photograph by Mr. J. Thomson.

us into India, and the study cannot be arrested till we have included the architecture of Ceylon, Burmah, Siam, and China. All are allied by links which it is necessary to recognize before the history of architecture can be understood.

This is the task which Mr. Fergusson has undertaken, and there is no man more fitted for the purpose; in fact, there is no other man who has had the necessary education to enable him to produce such a work. We have men deep in classical architecture; there are plenty who know all about Gothic; Byzantine has numerous students; ancient Egyptian is well known; but the trans-Indus architecture has been studied by few, and these few would all point to Mr. Fergusson as being the man with the greatest amount of knowledge, and as having done more than any other to work out the subject. He spent a great many years in India, during which his leisure was devoted to visiting and drawing—drawing being the best of all means for studying this subject—all the important architectural remains of that country. By this means he made himself master of the various styles, and all their details, so that he has been able to classify them, and this classification includes as many orders as the "five" of the last generation. It is this complete knowledge of oriental architecture, coupled with an equally extended acquaintance with that of the Western world, which makes him the man fitted to write "A History of Architecture in all Countries." All previous works which pretended to this title were written by men who had studied only some particular style which formed the *pièce de resistance* in their book, and the rest of the subject was served up as corner dishes, perhaps a mere fragment being made to represent the art of a vast geographical space, which we now find to be covered with examples of the highest value. But the present work goes on a different idea; which Mr. Fergusson thus expresses in his preface:—

"It is, so far as I know, the first attempt to write a universal history of architecture in which each style shall occupy exactly that amount of space which the extent of its buildings or their merit would appear to justify."

Let us now consider how the accomplished author has carried out his programme. Of course such a work cannot exhaust each style—it does not pretend to do so,—but with these volumes you can sit at home, and turning over their ample leaves, each illustrated by beautifully minute woodcuts, you may wander over the world and, like a traveller, visit all its buildings of celebrity. You may explore the interior of the Great Pyramid, and understand its construction as well as if you were on the spot. You may ascend the Nile, and visit Thebes and its temples. Jerusalem and the Holy Places are an easy pilgrimage. The Acropolis can be scaled, and the Parthenon measured; St. Sophia can be looked at without the usual demand for "bucksheesh." You may peep into the Caves of Inkerman, and pay a flying visit to Moscow; a few pages turned over, and you are at Bagdad looking at the tomb of Ezekiel. The Birs Nimroud—the now accepted Tower of Babel—is ready for inspection, and so your enthusiastic guide leads you to India, with its wonderful rock-cut temples, and the elaborate and beautiful ornamental shrines which are to be found in every part of it. Now, on to Siam, and you have the beautiful temples which Mouhot, the French naturalist, was the first to discover, in his search after the wonders of insect life, through the jungles of that country. At the last meeting of the British Association Mr. Thomson exhibited the plans and numerous photographs of the Great temple of Nakhon Wat—one of those which Mouhot first came upon—and these are in part reproduced on Mr. Fergusson's pages, so that the reader may form an idea of this wonderful remnant of ancient architecture. After looking in at the Great Temple of the Dragon at Pekin, an easy jump takes you over the Pacific, to Mexico and Peru, and their very strange Sun Temples, some of which are like Egyptian pyramids, and others with strong Buddhist analogies about them, leading to the idea of a connection between the old and new world, which Mr. Fergusson thinks may have existed

by way of China, and possibly through Behring's Straits in the fifth century.

In making this round of the globe, visiting "all countries" where there are remains of buildings, you will find that your cicerone is not a dull, dry matter-of-fact architect, knowing nothing but the knowledge which is peculiar to his hobby. On the contrary, the architecture of each country is treated in relation to the race of people, and to the requirements of their religion or life. In the preface, the author claims that if he were to state the most important feature of his work, it would be its "Ethnography." He says :—

"My impression is that, unless the essential affinities of styles are perceived, and their application can be traced, the history of architecture is a mere *memoria technica* for connecting buildings together; but whenever their true relations are grasped, their history rises to the dignity of a science. My conviction is, that when properly appreciated, architecture will be considered as important in tracing the affinities of races as language; and that, in many cases, it is even more so, because more fixed and more easily read, while it is quite as essentially characteristic. So deeply impressed am I with the importance of this element, not only to the art of architecture, but to the science of mankind, that I feel that if I have been enabled to place it in a clear and intelligible form, I shall not have lived or laboured in vain."

Probably there are few who are prepared for such claims on the part of architecture. The most of people generally think that buildings are produced *anyhow*, or, if there is a style about different periods of architecture, that it is very general and vague, and not at all to be depended upon. But it is a great and important principle that there are not more reliable records in history than the buildings of a country. The manner in which men have built houses, temples, and tombs, the material of construction, the ornaments and sculptural decoration, are in every land among the most trustworthy arguments which history can produce. They are the fossils of their several periods. Inscriptions may be interpolations of a later date, or written falsehoods of the time; books are generally the written records of a man, or expound the views of some set of men at a given moment. This architecture never is. So far as it goes, as a record, it must express the truth regarding the ideas, the wants, and aspirations of an epoch. The details of a building, its arrangement of parts, its mouldings and its ornaments are as certain data as is the structure of plants in botanical classification.

No better illustration of the foregoing proposition could be given than the discoveries which Mr. Fergusson made about Jerusalem. There was a building there called the Holy Sepulchre, and there was another called the Mosque of Omar. When Mr. Fergusson began to consider the character of these buildings, he was struck with the pretended name of the "Mosque of Omar," and his knowledge of oriental architecture at once told him that no Mahomedan ever raised it for a mosque. A more minute investigation established the fact, that it could not have been built before the time of Diocletian, and not later than that of Justinian. Intermediate came the reign of Constantine, and it was known that Constantine had built a House of Prayer, which he commanded "should be erected round the Saviour's tomb on a scale of rich and lavish magnificence, which should surpass all others in beauty; and that the details of the building should be such that the finest structure in any city of any empire might be excelled by it." Such were Constantine's orders, and no building in Jerusalem except the Dome of the Rock realizes them. It is one of the finest examples of richness and lavish magnificence in the world, and it is from its detail of ornament and construction, a building of the age of Constantine. Here on this architectural stronghold Mr. Fergusson takes his stand. Eusebius and other historians have been brought into the controversy. Old monks and pilgrims who have left writings in early days have been appealed to; and all these historical and written data have been quoted on each side, with that air of triumph which indicates that they are authorities confirming the most opposite opinions; but in the midst of this long and heated controversy, with so much uncertainty about the meaning of historical documents, the architectural facts and the argument founded upon them stand untouched, and by *these written stones* it has come to pass that a man understanding the *writing*, has been able to overthrow an error believed in for ages; to make clear what the regular sources of history had failed to do; and thus to establish the value of architecture as a study in relation to the "science of mankind."

Mr. Fergusson intended to give a greater importance to the Druidical remains than he has done, and he was at the trouble of a journey to Carnac in Brittany, to see the wonderful monuments there. The questions involved made it evident that justice could not be done without going beyond the purpose of the present work; thus the matter is left within the limits due to its importance, and the author awaits some other opportunity to give full justice to the architecture of the Druids.

There is one very interesting chapter on the ancient Celtic architecture of Ireland. The author seems to think that the style did not come by way of England from Europe, but that its origin must be sought in the East, and that it must have reached Ireland by some very early and independent source. This is in keeping with the traditions of the country, and also with the fact that when Augustine arrived from Rome, he found that Christianity had got to our islands before him. How it came is one of the dark points in our primitive history: but the generally received idea is, that it was by way of Ireland that Columba carried it over to Iona, and that it thence spread all over Scotland, and as far south as York. It was in virtue of this pre-conversion that York so long contended for the Primacy of England against the claims of Canterbury.

The principal interest is, of course, in the two first volumes, which treat of the ancient architecture of the world. The third and concluding volume begins with the Renaissance as the commencement of modern architecture, and from that point the subject is brought down to the present day.

The quantity and quality of the woodcut illustrations cannot be too highly praised: of this our readers may judge for themselves, for, through the kindness of the publisher, we are enabled to give a couple of the drawings which add so much interest to Mr. Fergusson's pages. One is "the great Tower of the Pagoda Wat-Ching, at Bangkok;" and the other is a "View of Exterior Corridor, Nakhon Wat." The last of these was quite a discovery on the part of Mouhot, and so great was the interest felt in it, that an amateur photographer—Mr. J. Thomson—penetrated into the jungle, and has brought home a most complete set of photographs of this vast and wonderful temple. These photographs produced quite a sensation at the last British Association's meeting, for the style of architecture can scarcely be identified with any other in the East. The square pillars of the corridor in the illustration seem more allied to the Erectheum than to any Indian building. The temple, although Buddhist, has the story of the Ramayana sculptured all along its corridors, a circumstance which indicates the existence of Hindoo ideas in this part of the world at a very early date.

We must acknowledge our thanks to Mr. Murray for having placed it in our power to furnish our readers with two such beautiful illustrations of these last and most important discoveries in ancient architecture.

Hours of Work and Play. By Frances Power Cobbe. London: N. Trübner & Co., 1867.

Of the fourteen papers composing this book, twelve are reprints from high-class magazines, whose pages they have adorned during the last three years. Any eulogy of ours upon Work of the worthiest and Play of the most sparkling order, which originally found favour with the conductors, and doubtless with the myriad readers of such periodicals as *Macmillan*, *Fraser*, *Temple Bar*, *Once a Week*, or *The Atlantic Monthly*, may seem somewhat after date; but we will nevertheless congratulate Miss Cobbe on the popularity

she will acquire through this republication. The authoress of "Public Morality and its Teachers," "The Indigent Class," "The Fallacies of Memory," "The Shadow of Death," "A Lady's Adventure in the Great Pyramid," and "The Fenian Idea," has fairly won new laurels for her sex in an arena, where its triumphs have of late years been many and signal. In extracting specimens of her grave and gayer moods, we face a certain small risk of being blamed for serving up *rechauffées;* but the majority of our readers will, we are sure, thank us for the following quotation from a delightful essay on "The Fallacy of Memory," to recognize which they must have read the New York *Galaxy* of May last.

"The conclusions to which this brief review of the failures and weaknesses of memory must lead us are undoubtedly painful. To be deceived a hundred times, and misled even in important matters, by a wrong estimate of our powers, seems less sad than to be compelled to admit that the powers themselves are untrustworthy. 'To be weak is to be miserable,' in this as in all other things; but to find Memory weak is to be not only feeble in the present, but to lose our grasp of the past. That dear past! the past by whose grave we are standing all our later life, is doubly lost to us if we must cover it up in dust and oblivion. To know that what we deem we recall so vividly is but a poor, shifting reflex—hardly of the thing itself, only of our earlier remembrance of the thing—this is sad and mournful. Almost more terrible it seems to confess the fallaciousness of the great traditions of History, and in the waste of waters, over which we are drifting, to behold the barks of past centuries no longer stretching their sails in our wake, but growing hazy and spectral in the mist of doubt, till some we deemed the richest galleons in that mighty fleet fade from our eyes, and are lost for ever in impenetrable cloud. These things cannot be evaded or averted. On our generation of mankind has come the knowledge of an isolation, such as younger races never felt, and perhaps could less have borne. The sweet, childlike companionship with Nature, the reasoning beasts and birds, the half-human fauns and dryads and nymphs and river gods, the gnomes and sylphs and fairies; the peopled sky of angels, and nether world of demons and of ghosts—all are gone from us. We are alone, we of this poor human race, so far as we have any knowledge or even definite fancy, among intelligent beings. Between us and our dumb brute slaves there is a gulf, which no longer is bridged over by any earth-born or heaven-descended race. Science, as she marches round us in wider and yet wider circles, leaves ever a hard and barren track behind her, on which no flower of fancy may bloom again. And at this hour she tells, or threatens to tell us yet more—that if we would know the parents from whom we came, whose Paradise-home yet seems the cradle of our infancy, we must retrace the world's course not for six thousand years, but for ages of millenniums, and find them at last—not beautiful and calm, conversing in Eden with the sons of God — but simious-browed and dwarf of limb, struggling with the mammoth and the cave-bear in the howling wilderness of an uncultured world. Is not this enough? Must we also relinquish those Elysian fields of History, where the great departed yet seemed to live in bowers of amaranth and never-fading fame? Keeping the landmarks of the ages—the wars and the dynasties; keeping the great heirlooms of wisdom, in books, in art, in temple and picture and poem and statue, must we relinquish those thousand lesser marks which have served to render History real and dear to us, and have brought the mighty Dead, not as silent ghosts and faintly-descried shades, but as living and speaking men before us? Must we be content to know, that only the outlines of the ancestral pictures of our house are true, and all the colours which make them beautiful, retouched and falsified? Perchance it must be so. Perchance the loneliness of human nature must needs be more impressed on us as science advances in the field of historical criticism, as in the fields of mythology and physiology. The past is becoming like a twilight scene in a mountain land, where the valleys are all filled with mist, and wood and waterfall and village spire are dimly shadowed. Only some snowy Alp, whose huge outline we recognize, towers into the upper air; while the lights gleam here and there, from hearth and cloister and student's cell, the rays of genius shining through the night of time. We are a thousand millions of men and women and babes living now upon earth; but of those who are gone before on whose dust we tread; and of those who may be dwelling now in the stars which glitter in our wintry sky, we know almost as much,—and that is not knowledge, but conjecture."

We cannot here find room to quote very pathetic passages we had marked in "The Diablerêts," piquant comicality from "The Lady's Adventure in the Great Pyramid," or elegant satire from "The Humour of all Nations." Suffice it for us to say that these sparkling pages prove their authoress to possess a depth of feeling, a keenness of observation, a store of knowledge, and a polished style, which place her, and will maintain her, if she so please, in the foremost rank of modern essayists.

Papers on Picture Flaying at the National Gallery. By an Artist. Trübner & Co., 1867.

THE titles of this series of essays, "Annibale Caracci," "Bravo Boxall!" "Salvator Rosa," "The Academician on Time and Dirt," "The Dealer on Toning down," "The Connoisseur on Process," "The Philosopher on Effect," "The Committee and the Job" will afford an intelligent reader a notion of the tenor and spirit of the pamphlet they compose. Those who can relish a hearty diatribe may wile away an hour or two very pleasantly over the "Artist's" pages, which, while they teem with abuse, in good set phrase, of the powers that be, and suggest to an unprejudiced mind the idea of a hobby-horse run wild, yet evince a considerable acquaintance with the subject, an honest abomination of jobbery, and a deep and fervid love of art that goes a long long way to palliate excesses of expression. In the course of the last autumn several important pictures in the National Gallery were subjected, under the direction of Mr. Boxall, Mr. Wornum, and other *employés*, to a very ordinary process of cleaning, and, as those authorities fondly imagined, with very excellent results. The principal ones were a Salvator Rosa landscape, commonly called "Mercury and the Dishonest Woodman," formerly the property of Mr. Byng, and "The Château of Stein," the largest landscape ever painted, by Rubens. When the Gallery was opened after the recess, we were there, and so it is to be presumed was the author of the pages before us; but oh! in what different moods. While we, in Bœotian blissful ignorance, were applauding what we were pleased to think the successful exertions of the authorities to unveil the long-obscured beauties in their charge, there was present one, to whom (pictorially speaking) a cleaner is a nightmare, and dirt a religion; and who muttering mentally, we may imagine, such phrases as "desecration! mutilation! spasm of destructiveness! Vandalism! noodles! nincompoops!" straightway returned home to give vent to his feelings in a protest, and a series of essays which are very instructive and interesting even to those who like ourselves differ *toto cœlo* with the main proposition he seeks to establish.

On the subject of picture-cleaning he opens his case as follows: we extract the passage at some length, for though many of our readers have heard of the practice, its attendant risks, and of the controversy which rages periodically about the propriety or wrongfulness of it, few may be aware upon what the question hinges.

"On a picture that has been painted for centuries dirt to some extent must inevitably adhere; but this, if the work has not been ignorantly covered with bad varnish or oil, will be so small in quantity as not to materially interfere either with the effect of the work or the pleasure and profit derivable from it by spectator or student. Still, the removal of this dirt would unquestionably be a gain, provided it were done without damage to the paint; but 'cleaners' almost always take off, with the dirt, that delicate coat of colour by which the great painters imparted finish to their works, termed 'glazing.' Their process of painting was

broadly this: on a ground more or less dark and transparent they modelled the picture in tints formed by mixing white lead with coloured pigments, thus producing an effect which, as compared with their ultimate intention, was crude, cold, opaque, and technically speaking, 'dead coloured.' To this pale preparation they imparted life, warmth, harmony, and richness of tone by repeated coats or 'glazings' of colours more or less transparent; and a picture thus produced has the additional and invaluable quality of luminousness, resulting from light and opaque tints shining through colour rich but thin. Now it must be evident that pictures produced by this complex process can be injured at will. Let the owner or curator consider lightness or paleness a merit, and the glazings are at once torn off as 'dirt.'"

Our author next proceeds to indict the late and present keepers of the National Gallery, their aiders, abettors, and accomplices of every degree; for that they, under pretence of removing the accumulated filth of ages (which in a second count he charges that they themselves imposed in the shape of varnish), did skin, flay, and destroy no less than one picture per annum since 1843, and thus inflicted wanton devastation upon taste and art.

The following peroration rather reminds us in style and solemnity of the celebrated one of Burke against the unfortunate Governor-General Hastings. Perhaps it is more than adequate to the occasion that has evoked it, but we quote it as a specimen of the intensity of party.

"Against this Vandalism we raise our voice—against this ignorant destruction of works which can never be replaced we protest in the interests of art, of the nation, and of the world. As Mr. Boxall—in contempt of the overwhelming evidence against the National Gallery process of 'cleaning,' given before the Committee of 1853, in contempt of the facts then deposed to by Mr. Morris Moore, Mr. William Coningham, Sir David Brewster, Mr. David Roberts, R.A., and other competent witnesses, with reference to the nature of 'glaze' and the irreparable injury caused by its ignorant removal—in contempt of the universal condemnation of the Vandalism of 1852, by the press—has thought fit to recommence this method of destruction, thereby not only depreciating the value of public property to the extent of thousands of pounds, but causing injury which no money can repair—we demand in the name of the public, that all operations that come under the head of 'cleaning' be at once stayed, and that no more pictures be removed from public sight until Parliamentary inquiry has again probed this matter to the root."

We devoutly hope that the accomplished author may be disappointed of a Parliamentry committee, which would be utterly abortive, because, as neither committees nor individuals can elucidate the composition and nature of the glazing of any yet 'unflayed' picture, or find out the appearance which any one painting presented when it left the easel of the master, it would seem to us that no reference can settle how much paint or glaze, if any, has been or will be taken from any picture in the cleaning process, along with the hallowed, harmonizing dust which the indecisive Eastlake is censured by our author for approving, but for which all these pages are a plea. No one invariable rule could be laid down on the subject save that dirt should be immoveable; and in denying that the operations on the Rubens and the Salvator would justify such a rule, we differ, with regret, from the Artist.

We have pleasure in extracting his agreeable commentary on the former work, not suppressing the castigation levelled at ourselves and all the other noodles of the world at its close:—

"This noble landscape represents, not sunset (for this effect see smaller landscape by Rubens, No. 157), but a sultry autumnal sunrise. To the left is seen the château (still, we believe, standing) sheltered by tall trees with rich October tinge of leaf. On the terrace, taking the morning air, stroll Rubens and his wife; whilst the lazy maid, holding their infant child, sits indiscreetly down. A moat surrounds the place, and, leaning over its bridge, a rod, with customary adjuncts of 'fool' and 'worm' (see Johnson), trusts to provide fish for dinner; whilst, thinking of the same meal, a man, crouching in the foreground, with dog and gun, has designs on a covey of unconscious partridges. Far into the dim distance stretch rich level meadows, fenced with pollard and stream; whilst in mead nigh at hand stand cows relieved by milkmaids—one still busy, the other bending her steps towards home. To the left, starting for market, with brisk but heavy trot, two horses draw a 'lumbering' wain, in which is seen a bonny, smiling, buxom Flemish dame, in hat, red cloak, and gown of blue; whilst a huge brass pitcher of warm milk, a barrel of portly size (sad sight to temperance eye), and unlucky red calf, trussed in bucolic style, all four feet together, bear her company. Guiding the team sits, postilion fashion, on near horse, a happy peasant, who turns the vehicle, at the moment caught by Rubens, into a shallow, brown, brawling brook, the disturbed waters of which flash with golden sparkles to the horses' tread. Briars and tall weeds, wonderfully touched, sprawl over trunk and bank, and fill the foreground; whilst, perched in a bush to the extreme right, is an assembly of early birds, varied in kind, and deep in after-breakfast debate as to the influence of soil on the flavour of worms; but a kingfisher, disdaining such small talk and disgusted at impertinent proximity of biped with gun, takes wing for fresh streams and gudgeons new. Such, in brief, is something like the story told by this wonderful delineation of seventeenth century rural Flemish life, which, modelled in Rubens's customary manner on a transparent ground of lightish yellow hue, was finished, tone and form, with free use of transparent colour, now ruthlessly torn away; and although the uneducated eye, unequal to discrimination of Rubens's handiwork from 'cleaners'' brown or *toned* varnish (of which more anon), may think the picture 'renovated,' the connoisseur, gifted with clear vision by years of study of art and nature, too, in all their forms and moods, knows that it has been converted into so irreparable a wreck, that the great Rubens, could he see it, would be filled with unquenchable disgust, and would overwhelm with indignant reproach the 'noodles and the nincompoops' through whose dense ignorance so gross a desecration has been permitted—nay, more wonderful still, superintended."

Now, to whom do we—and perhaps even the artist-author—owe our thanks that we can follow, relish, and confirm the foregoing interpretation? To the well-abused cleaner, the reverent, competent "flayer" who has exhumed for the painter, the poet, and the public a thousand beauties that have not been seen or dreamt of since the picture made its first appearance in the gallery. Had we any passion to bestow on the matter, we would as roundly as the "Artist" does, invoke the shade of the great Fleming to support our view of the case, and to offer thanks to those who have so late made his excellent work manifest among us. Truly no Parliamentary committee will reconcile such absurd optical difference as exists between us and our author.

For him there are evil times, perhaps, in store. No committee can deprive him of that exquisite feeling for colour which he shares with Mr. M. Moore, and a few others; a feeling as refined, and sensitive as the touch of the blind or the ear of a Beethoven. Yet it is by what he deems the uncultured hordes of Noodledom, that committees or governments may yet again be swayed, and picture after picture may be "flayed" at the bidding of "idiots" and "boors," who must see what they have paid for, because they cannot evolve it from their imaginations; while the few and fatally endowed connoisseurs weep outside in sympathy with each wounded glazing. Let us hope that consideration for those who have not that inner sense which can appreciate the beautiful through primary, secondary, and tertiary formations of dirt, may in time allay the irritation of the sensitive artist, and that he may make a little more allowance than he now seems disposed to do for the views and actions of those who do not walk with him. It is not necessary for a person to be a noodle, or a nincompoop, or a jobber, or a rogue, because he happens to be a public official, or happens not to be a professional connoisseur.

NATURE AND ART

May 1, 1867.]

THE HARMONY BETWEEN THE MOSAIC AND EGYPTIAN COSMOGONIES.

The Substance of a Lecture delivered at a Meeting of the Syro-Egyptian Society, on the 14th of February.

By Joseph Bonomi, F.R.A.S.

WHATEVER may be the opinions now permitted at the Vatican respecting the Copernican system, it is presumed that there is no Oxford or Cambridge Doctor of Divinity who, in this latter half of the nineteenth century, believes that the truth of Scripture is in the least affected by the discovery of the earth's motion, for the very sufficient reason that the Bible was not designed to teach mankind astronomy. So likewise, for the same excellent reason, if it should be proved satisfactorily that the accompanying Egyptian diagram of the constitution of the universe is in perfect harmony with certain statements in the Bible on the same subject, however much both may be at variance with modern science, the truth of Scripture will not be assailed or injuriously affected by it; on the contrary, it is hoped that the monument from which the diagram is derived may come to be regarded not only as a most ancient and valuable comment on those particular statements, but also as a corroboration of that Scripture which declares that "Moses was learned in all the wisdom of the Egyptians."

The ancient document from which the diagram (Fig. 1) is taken is the alabaster sarcophagus in the Museum of Sir John Soane. As some of my readers may not be acquainted with that important piece of antiquity, I will digress so far as to say that it was discovered about fifty years ago by Belzoni, in the tomb of a Pharaoh who reigned, according to Mr. Samuel Sharpe, about 1,200 years before our era; that it is carved out of a single block of a semi-transparent marble, of the same kind and from the same place as the alabaster box spoken of in the Gospels; and that it is a large chest in the shape of a mummy, sculptured inside and out with significant figures and hieroglyphical writings, setting forth the notions entertained by the most learned people of antiquity respecting the constitution of the universe, the origin and conquest of evil, and the future destiny of the soul. These three subjects of stirring interest must have occupied the minds of the thoughtful and the intelligent in all countries and at all times. That they did do so more profoundly in ancient Egypt than elsewhere, the monuments abundantly testify, there being scarcely a single object, from the largest temple to the smallest article of domestic utility, without its inscription, more or less bearing reference to one or other of them.

I will now proceed to explain how the diagram (Fig. 1) is a picture of the universe as understood by the ancient Egyptians, and how it is in accordance with certain statements in the Bible on the same subject.

I must first, however, draw attention to its position, which is at the head, inside of the sarcophagus. It is important to notice this circumstance, because, by placing this subject at the head, the ancient designer of the work meant it to be understood that it should take precedence of every other subject; in fact, that it should be, as its place declares it to be, the "*berashith*," "the beginning," or, as this first word in the Bible might be more closely translated for our purpose, at "the heading," ראש signifying "head."

All persons in the least familiar with Egyptian representations know that the zigzag lines represent water. It is to be observed that, in the midst of the expanse of water (A A A A), is a plain part (B), unoccupied by zigzag lines. I shall hope to convince the reader that the ancient Egyptian artist meant this plain part to represent the firmament, which is stated in Genesis to be "in the midst of the waters."

Above this plain part, as the picture now stands, is the figure of a man curiously convolved. This figure (C) represents the earth. He is curled up in this remarkable position to convey the idea of the circular figure of the earth,—not, however, as a ball, but as a disc, fixed like an island in the ocean or surrounded by the sea. Thus the earth was con-

ceived to be by all the ancient world; and so, in Psalm xxiv., it is said to be "founded on the seas and established on the floods;" and (in Psalm cxxxvi. 6) "To him that stretched out the earth above the waters." Other quotations, both from the Bible and Apocrypha, might be made, all tending to convey, respecting the earth, the idea set forth in this ancient document.

In further confirmation of this notion of the earth, namely, as being surrounded by water, I will refer to a map of the world as known to the Israelites before the time of Solomon (Fig. 2). It is enlarged from a woodcut in a little book called "Texts from the Holy Bible Explained."*

The Garden of Eden is represented at the sources of the Tigris and Euphrates. Josephus (Ant. i. 13) considers the Gihon as the Nile, and the Pison as the Ganges; and Virgil (Geor. iv. 288) makes the Nile rise in India, as if it were the same as the Ganges. Thus, says the author, the ancients thought that the Gihon flowed round the western half of the world into one branch of the Nile, and the Pison flowed round the eastern half, through the Ganges, into the other branch of the Nile. It was not before the reign of Darius that it was discovered that the Persian Gulf was joined by water to the Red Sea, or that there was any ocean to separate the Ganges from the Nile. That the earth was believed to be circular we learn from Isaiah.† That this circle was thought to be bounded by water we learn from Job.‡ Homer called this boundary-water the river Oceanus (Odyssey, xi. 638). In the map, Jerusalem would be supposed—though this is not indicated—to stand very nearly in the middle of this circular earth, and Ezekiel (xxxviii. 12) describes his nation as dwelling in the very middle spot of the earth.§ I recollect being shown by a Greek priest a stone in the Greek Church of the Holy Sepulchre, as marking the very centre point of the earth.

To be quite sure, however, that the ancient designer of the diagram (Fig. 1) meant the curved figure to represent the earth, we will turn the picture and view it from the opposite side.

As it is now placed, a little figure of a woman (D) will be perceived standing on the head of the convolved figure; that is to say, in this pictorial language, standing on the top or highest point of the earth, and holding up the sun (E), and as we now view the picture, holding up the sun *above* the earth, in that plain part, which thus acquires an additional claim to be considered the firmament, and at the same time certifies the intention of the artist respecting the meaning of the convolved figure. That the ancient contriver of this picture of the universe intended it should be contemplated from the present point of view is rendered perfectly certain, because the hieroglyphics accompanying the two figures can only be read in this position. Moreover, that we should not be mistaken as to the quality of the person who holds up the sun above the earth, the ancient scribe has written her name Neith or Netpe in front of her. The name is composed of the first three hieroglyphics,—the vase, which is an N; the half-circle, which is a T; and the horizontal bar with a pointed deflection at each end, which is a P. This last sign is an emblem of the heavens, and may be taken as a determinative; that is to say, as determining the quality of the thing named, as Neith, the heavens. We find both the first and last characters of this goddess's name amplified in the hieroglyphics over the head of the large figure engraved on the floor of the sarcophagus. (See Plate 16 of "The Alabaster Sarcophagus of Oimenepthah I.," now in Sir John Soane's Museum, Lincoln's-Inn Fields. Longman, Green, & Longman: London, 1864.) There she is in the act of spreading her arms to receive the body of the king, which was deposited in the coffin. More usually, however, this goddess is in the attitude of stretching over the earth, as in the cover of the Hartwell sarcophagus;* in the zodiac on the ceiling of the temple of Edfu and other temples; and in that stone sarcophagus in the British Museum, where she is represented likewise as mother of the planets. Here, however, she is in the character of sustainer of the sun in the firmament.

Within the contour of the figure representing the earth the first two hieroglyphics—viz., the seat and the eye—are those which stand for Osiris. The rest of the sentence intimates that from this place the spirits—that is to say, the souls—of the human race depart and return; in allusion, probably, to the doctrine of the Metempsychosis, which is illustrated in another part of this interesting monument.

And now, to contemplate the rest of the diagram, we must restore it to its former position. The presence of the deities here figured in the boat I take to be good circumstantial evidence that the plain part in the midst of the waters was meant for the firmament, and that is, because the artist has represented the gods as dwelling and moving therein. These figures and the scarabæus in this part of the diagram refer particularly to an Egyptian dogma respecting the soul, and bear no further reference than that just stated to the subject under consideration.

Now, as the picture stands, from the base rises the upper part of the figure of a man (F), gigantic as compared with the other figures. He is extending his wide-spread arms to sustain the sacred papyrus boat of the gods in the firmament. The Greeks

* "Texts from the Holy Bible Explained by the Help of the Ancient Monuments." By Samuel Sharpe. Day & Son, Limited. 1866.

† Isaiah xl. 22: "It is he that sitteth upon the circle of the earth."

‡ Job xxvi. 10: "He hath compassed the waters with bounds, until the day and night come to an end." Otherwise, literally rendered, "He drew the circle on the face of the waters, as a boundary between light and darkness."

§ At Delhi there is a high iron pillar of great antiquity, which is believed to be the centre of the earth; and this iron column is considered the spindle upon which it turns. Delhi si Dilhi, from *dil*, the heart or centre.

* "The Triple Mummy-Case of Aroeri Ao." London: Longman, Brown, Green, & Longmans. 1858.

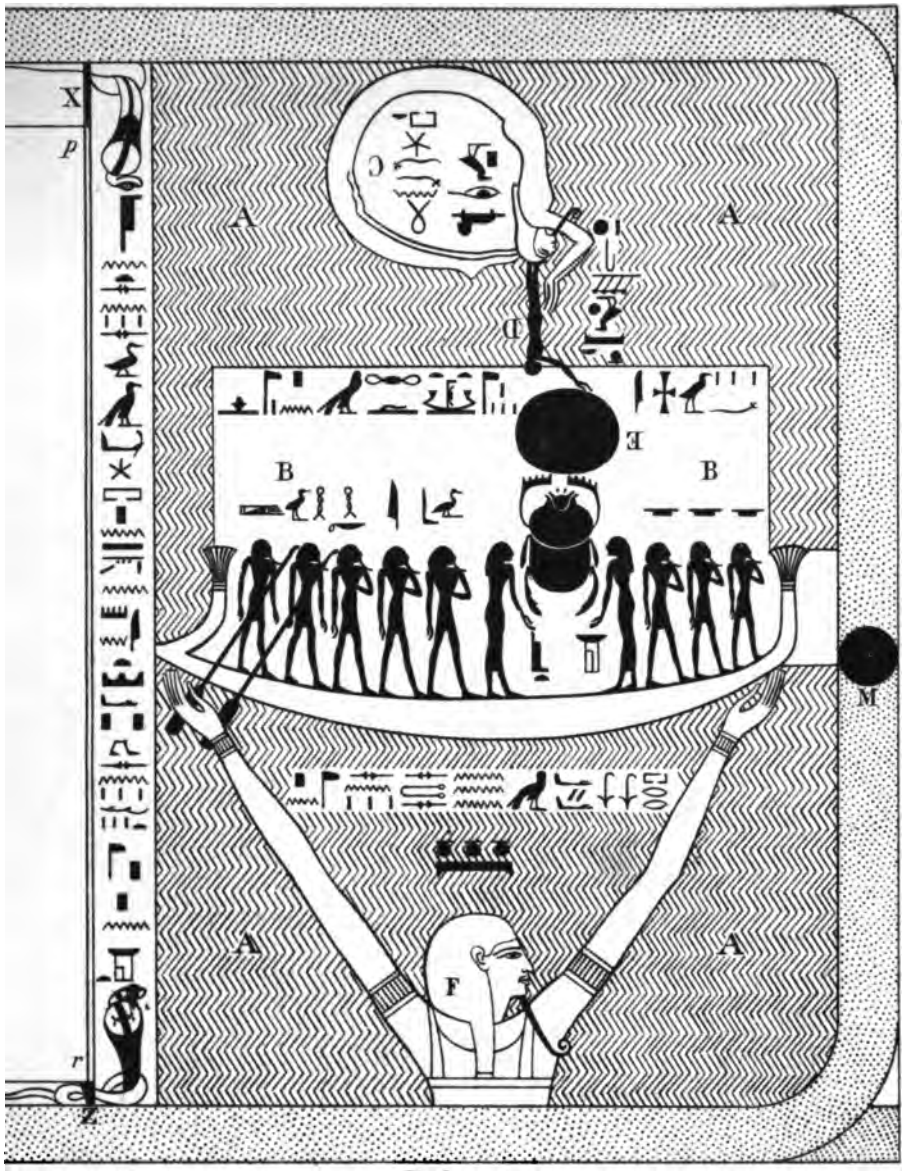


Fig. 1.

Fig. 4.

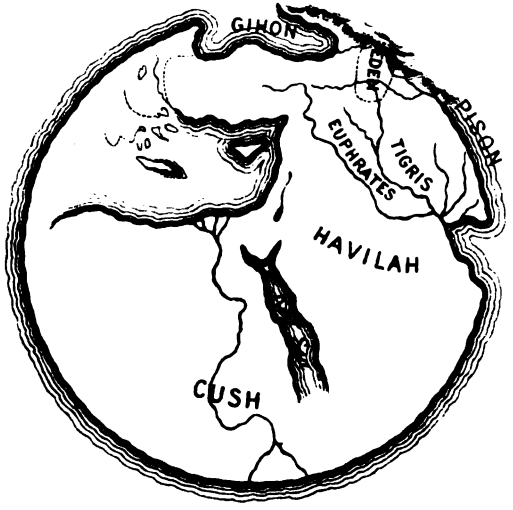


Fig. 2.

Fig. 3.

and Romans represented the gods in chariots; but as in Egypt the Nile is the principal highway of the country, the Egyptians depicted them in a boat. This gigantic figure is a personification of the great ocean that was supposed to sustain the firmament and all things therein, and it is remarkable how closely it corresponds to a metaphorical sentence in Habakkuk: "The deep uttered his voice, and lifted up his hands on high." There is no representation in all Egypt, no sarcophagus in any museum of Europe, and no papyrus in the British Museum, as far as I am aware, that will bear the interpretation which you have just heard attributed to this diagram.

And now, if it were required to reduce to lines, or, in other words, to present to the mind through the medium of the eye, that remarkable statement in Genesis respecting the position of the firmament, namely, "in the midst of the waters," and to render pictorially in one and the same view that other statement in the Psalms respecting the earth as "founded upon the seas and established upon the floods," I am at a loss to conceive how it could be better done than it has been by the ancient Egyptian artist. To do this the more effectually, he has employed both plan and elevation in the same picture in a way common to Egyptian representations, and no doubt universally intelligible at the time and in the country, where this pictorial language is, as it were, the very root of the more ordinary written one.

For instance, when it was required to explain to the spectator that the food offered to the dead was properly set out, according to custom, on tables spread with the fresh green leaves of a particular species of reed, it was done as represented in Fig. 3. The leaves are to be regarded as lying flat on the table, and on the top of them each particular article of food is shown by a means which could not have been accomplished, in one view, in a true optical representation. Again, if it were required to show that palm branches were strewn in the path of the mourners, it was done in the way described in Fig. 4. So in the diagram (Fig. 1), to explain that the figure of Osiris is put for the earth, the goddess Netpe, or the heavens, is represented in elevation as standing on the head of Osiris, who is "in plan." In other words, she is standing on the highest part of the earth, to sustain the sun; and because it was necessary to place the sun in the firmament, and *above* the earth, it was of course essential to show that the picture must be viewed from another base; and hence the figures of Netpe and of Osiris are reversed, and the hieroglyphics belonging to these figures are made to be read from the same point of view. Again, for a like reason, because it was necessary to show that the firmament and all it contained was supported by the great ocean of space, the gigantic figure personifying this vast sea was necessarily placed at the proper base of the picture. It now remains to show in this same picture the firmament under another aspect.

The Egyptian artist has chosen to do this by a band of dots, which in this form could be made to serve as the upper and lower boundaries to the subjects treated of in this most interesting document, and, at the same time, to convey to the mind something solid and strong, such as granite, which is typified by the dots he has so industriously engraved in every part of it. In other words, he would have you to understand that, although metaphorically or poetically speaking, it might be said that the sun was sustained in the firmament by the queen of heaven, as this Egyptian goddess is called in Jeremiah xliv. 25,* yet, in prosaic truth, it was fixed in something firm and hard, like the granite boundaries of his own country. The two leading ideas present in the mind of the author of the Book of Job, when he compared the sky to a molten mirror,† are precisely those which are embodied in this diagram; for the strength and solidity of the bronze are here expressed by the presence of a dotted granite border, that holds and binds all space together, and the absence of dots in the firmament (B) favours the idea of light and expansiveness conveyed by the polished and reflecting surface of the mirror.

Just where this band of dots (the second aspect of the firmament) is joined to the former, in the midst of the waters, the artist has again placed the sun (M), represented as setting or sinking, below the surface of the waters, *as signified by the horizontal line which joins it to the boat.* If you will now travel in this "path of the sun," as it has been very happily designated by Mr. Sharpe, in the letterpress to the "Sarcophagus of Oimenepthah," you will arrive at a door or gate (*o*, *p*, *q*, *r*), which forms the left-hand boundary of this picture of the universe.

At the upper pivot (x) of this gate is the figure of a cobra serpent, to personate Isis (as the hieroglyphics inform us). She presides over the upper pivot in the upper firmament, while at the lower end of the gate is another cobra serpent, put for Nephthys, who presides over the lower pivot (z) inserted into the lower firmament.

It may not be unworthy of remark, in proof of the intelligent thought displayed in even the smallest particular, and the painstaking execution of this remarkable work, that the upper pivots of all these gates are represented as cylindrical, while the lower pivots are conical, as they were and are to this day in all the gates and doors of the city of Cairo. The lower pivot is conical, because of the pressure of the gate and consequent tendency to sink; the upper pivot, having no such tendency, is cylindrical.

This great door, then, whose pivots are fixed in the upper and lower firmaments, I venture to say is alluded to in the Book of Job (xxxviii. 8) as one of the mysteries of creation, and, as we may infer from this ancient document and from the form of question in which the words are addressed to the

* "We will surely perform our vows that we have vowed, to burn incense to the queen of heaven."

† Job xxxvii.: "Hast thou with him spread out the sky, which is strong, and as a molten looking-glass?"

Patriarch by the Almighty himself, is to be revealed in the after-life of the tomb. The words are, "Or who shut up the sea with doors?"

Now, on looking over the plates in the book of the Sarcophagus, we find that similar gates separate the chambers of Amenti or Hades: these gates are also alluded to in the same chapter of the Book of Job (xxxviii. 17), and likewise in the form of question, "Have the gates of death been opened unto thee? or hast thou seen the doors of the shadow of death?" The pivots of these gates are fixed in the same band of dots, again intimating firmness and solidity of substance, in which light those seventy learned men who translated the Hebrew Scriptures in Alexandria, most certainly regarded the word רקיע, which we, from the Latin, render by the word firmament, as bearing the same meaning. So, likewise, in the second century of our era, was the firmament regarded by the astronomer Ptolemy, whose system, as I learn from a recent translation of Dante by Mr. Pollock, was adopted by that celebrated poet. By both astronomer and poet the sun and planets were supposed to move round the earth in solid crystal spheres, an idea which finds some support in a passage in Ezekiel (i. 22), and which now we see was likewise entertained by the ancient Egyptian contriver of this illustration.

With the band of dots which forms the right-hand boundary of the diagram terminates the material world, and the first chapter in this most interesting monument.

In conclusion, it is curious to remark with what a religious tenacity these old notions of the structure of the universe were maintained. The Ptolemaic system, which, as we see, was mainly derived from these more ancient Egyptian ideas, became so universally established and religiously maintained, that even one hundred years after the publication of the Copernican system, which asserts the movement of the earth, the amiable and excellent man Galileo was persecuted for demonstrating its truth till the day of his death, which took place in January, 1642, exactly one year before the birth of our celebrated countryman, Isaac Newton. So rapid has been the progress of science since the invention of the telescope and other appliances, that now, it may be said, every observatory in the world can furnish mathematical and ocular demonstration of the earth's motion.

ON SKETCHING FROM NATURE.

By Aaron Penley, Professor of Landscape Painting at the Royal Military Academy, Woolwich.

No. X. A SPUR OF BEN LOMOND.

THE few forms of which this subject is composed are much varied in respect of lines, every portion of them partaking of undulations, with the exception of the central spur of Ben Lomond and the several detached and fallen rocks by the water's brink. The serpentine outlines of the many divisions of grassy mounds seem to play into each other in easy and graceful contours, while at the same time they admit of considerable alternation of light, shade, and colour. Opposed to them are the perpendicular trees, which rise in some significant height before the background, and convey to it the idea of softened and hazy atmosphere. Their stems are all of different length, breadth, and inclination, thereby affording little chance of formality. The position of each stem at its junction with the ground will be found to bear the line of beauty, and help to show the several progressive stages of distance in their immediate locality. This point is seldom attended to with a proper degree of thought or care that it ought, although by a due observance of the varied lines of a foreground, the eye is led on step by step until it finds itself carried into the middle distance, and, receding still further, becomes lost in a far-off haze.

This mingling is often the result of well-disposed lines, growing, as it were, out of each other, and so skilfully intertwined that none but the artist could suppose the effect could proceed from such a primitive cause. It is nevertheless perfectly true that distance is frequently more the result of lines than of colour, although of course the latter must ever be the true interpreter of the former. The groups of trees at the end of the loch are also of different sizes and forms, but so managed as to carry out the flowing undulations in the composition of lines: this is obtained by having reference to the several heights, to which particular attention is called. The stones at the water's edge in the foreground are arranged somewhat in the form of an ellipse, and yet so varied in size and form as to preclude the possibility of such an impression. The angular shape of the central mountain is, by contrast to the curved lines below, made to rise up with increased grandeur, and is suggestive of bleak and rugged wildness. Its height is made more apparent from the trees by the water, over the stones, being placed immediately underneath the summit; thus giving its full dimension from the base. The dark or rather blue range of hills below, in front, assist by their continuity in giving a certain impressiveness to the one solid mass; while the outline of the distant mountain, so different in character, still adds to the precipitous and rocky steeps of the principal

object of interest. One particular more I would wish to be well noticed, and that is the form of the long soft cloud above the mountain. If it were of any other shape than it is, it would necessarily have attracted undue attention, whereas by its simple, though slightly broken horizontal line, both mountains have their peculiarities strongly and clearly developed. Thus far have I thought it necessary to speak of the manner in which the several lines of the picture are composed, and how these in their varieties obtain value the one from the other. It is from the want of study in this individual branch of the art that much real pleasure in the contemplation of Nature or of a picture is lost. The intention in the working out of the scene too frequently escapes general observers, who, as a rule, do not imagine for one moment that the principles of art run so deep as to call forth the most intense efforts of the mind before they can be presented in all their excellence, and convey a just and reasonable idea of Nature—of Nature under her many garbs —of Nature in her numberless and varied effects.

With regard to colour, a general warmth pervades the whole drawing, which is cheered by the line of small blue hills in the middle distance. This blue tint must not be too suddenly introduced, otherwise it would be *unharmonizing*, if I may use the term; but rather should it be insinuated upon the purply tone of which the general mass of shadow is composed. This blue tone is also carried into the lower and shadowed portions of the trees, and in a less cold degree upon the rocks. I have said less *cold* degree, which means that there should be a little *red* added (crimson lake). The presence of the white stone in the foreground is very necessary to give depth of tone to the other light portions of the drawing; indeed all high lights are of the greatest importance as well as all the deepest touches, because they form so many points of attraction, upon which the eye will be sure to rest.

In carrying the colouring of this subject to completion, the sky should receive the line of cloud with a soft yet decided edge, as this will give considerable space beyond the mountains. There are two tones of clouds at the top edge, being of YELLOW OCHRE and ROSE MADDER, and that about the mountains partaking of more ROSE MADDER and a very small portion of COBALT. These tints may be passed over the mountains. After they are dry, the broad shadows upon the mountains are to be washed on with a thin colour, made of COBALT and ROSE MADDER, carrying it under the blue tones; and while it is drying, it will be advisable to put on the horizontal tints upon the water with the same colour. The next thing to be done should be the more detailed shadows on the mountain, and afterwards the blue tones of the low line of hills, which should be of COBALT, a very little GAMBOGE, and CHINESE WHITE; the gamboge being to impart a slight green tone to the blue, and the Chinese white to give a little opacity in order that it may show more readily over the under tints. The warm citrine tints of the grass are of RAW SIENNA, mixed with ROSE MADDER in the redder parts, and a little COBALT where of a greener hue. All the trees in the middle distance are a modification of GAMBOGE, LAKE, and COBALT, and will require careful painting: their reflections are put in with the same. The foreground trees are to have the markings of the clusters of foliage distinctly put on with GAMBOGE, BURNT SIENNA, and INDIGO, the brush being held rather uprightly, and the colour imparted by lifting the hand at each touch from off the paper, for the purpose of causing the forms to show out with decision and crispness; for nothing ought to appear blurred or softened. When the whole of these forms are given satisfactorily, the intermediate spaces are to receive their washes, being careful to leave such lights as are requisite, otherwise there will not be any gradation. For the two yellowish trees, GAMBOGE, BURNT SIENNA, and INDIGO are to be employed, varying the quantity of each according to the proper tint. The centre tree is shaded with COBALT and LAKE over the first tint. A little COBALT and LAKE may also be put over the deepest shadows of the others, to impart a slight grey tone. In like manner the darkest touches are given upon the grass, and a few lines upon the water, keeping them horizontal. These are intended to represent the surface of the water.

It would be far more profitable to recommence this subject entirely, following out the directions given in the last number, and only having the former chromo-lithograph as a guide rather than making it the COPY. In adopting this method the learner will, in time, better comprehend how all finished water-colour drawings are begun and carried through to completion.

"STRAY SCRAPS FROM ODD LARDERS."

By W. B. LORD, Royal Artillery.

WHETHER roaming among the luxuriant forests of the Tropics, journeying through the frozen wastes of the Arctic Regions, the arid flats of Africa, the fern-clad hills and valleys of New Zealand, or away on the clear blue sea, amongst the islands of the Pacific, the observant traveller will not fail to be struck with the marvellous wisdom of the Providence who has placed ready to the hand of man the food best calculated to supply his need in the climate in

which his lot may be cast, and endowed him with the ingenuity requisite to render it available. The oil-bearing fish, seal, and whale consumed in such quantities by the fur-clad Esquimaux, during the long bright night of an Arctic winter, serve to supply food or *fuel* to keep the lamp of life burning. Heat he must both generate and maintain to live: he therefore wisely clothes himself in the worst conductors of heat he can procure; builds a dome-shaped, wind-tight cell of snow blocks, which soon freeze together like solid marble; and subsists on food rich in carbon. His rude lamp, with its moss wick, is oil-fed like its owner. The Polar bear and Arctic fox, too, in their warm winter coats, wander amongst the ice-floes and along the wild inhospitable shores in search of such oil-bearing food as good fortune may cast in their way. Until at last come milder winds. The wild-fowl, in long wedge-shaped flights, wing their way high overhead, pealing forth their clarion-like calls,—

> "Hawnk! honk! and for'ard to the nor'ard is the trumpet-tone."

The ice-fields rend and crash like distant thunder, as they drift slowly away; the birds chirp and twitter once more amongst the birches and ground willows; the tiny flowers peep forth along the hillsides; spring has arrived, and the reindeer can be hunted, the salmon speared at the falls of the unchained river, and the ptarmigan shot with arrows or trapped amongst the whortleberry bushes; thus yielding an agreeable change of diet with the change of season and temperature. To those who inhabit many parts of India and other countries within the torrid zone, where no real winter is known, animal food is not a necessary. With a little rice, fruit, juarree (*Holcus Sorghum*) flour to make their thin pancake-like "aps," or "chupatees," and the beloved betel-nut to chew, defiance is bid to hunger; whilst a few light cotton cloths, differently folded, constitute head-covering and clothing. Bamboos, mats, and grass, judiciously arranged, form a hut sufficiently commodious for sleeping purposes and as a sun-shade, all culinary operations being conducted in the open air.

That betel-nut chewing enables those who are addicted to it to endure a larger amount of bodily fatigue than they could support without it, there can be little doubt. A small quantity of the nut is placed with a little lime on the leaf of a pepper vine (*Piper betel*); this, after being rolled into a pellet of convenient size, is placed with the finger and thumb far back in the mouth, and is there retained, staining the saliva of a bright-red colour.

The trade in this curious article of consumption is of vast extent throughout the Eastern seas, and the ports of Sumatra, Cochin China, and some other localities, are annually visited by the merchant fleets for its collection. The sea-board of the Acheen country, which is under the government of the Rajah of Acheen, is perhaps the most important trading point, and is pretty generally spoken of as the "Betel-nut Coast;" and the inhabitants of many towns and villages of considerable local importance trade in betel-nut exclusively, not only furnishing cargoes to ships, from the continent of India, but indirectly supplying the Chinese markets (where these nuts are valued at from three to four dollars the pecul,* according to quality), through Penang, whither the cargoes are first sent. The export from one of these Acheenese towns amounts to about sixty thousand peculs annually; the total supply collected from the various ports of shipment on the whole line of the Betel-nut Coast is estimated at ninety thousand peculs per season, commencing in May and ending in August.

The nut is the produce of the Areka palm (*Areka Catechu*), which is one of the most beautiful members of the palm family, shooting its slender stem straight up to the height of from fifty to sixty feet, when a splendid mass of dark green leaves is thrown out like a huge plume of feathers. These palms produce their nuts but once during the year, at which time they present the most beautiful and attractive appearance that can be well imagined; the fruit hangs in clusters at the ends of the long, tough stems from which it is suspended. It is of an elongated oval form, about the size of an egg, and of orange colour, contrasting charmingly with the rich green of the palm leaves. Each nut is enveloped in a thick fibrous coat; on removing which the kernel is found within, covered with a much slighter and more delicate integument, each husk containing one nut only. These, when removed from their coverings, are usually of an irregular, conical form.

Notwithstanding the supply of indigenous food-yielding products to be found in most countries, luxuries have from the very earliest ages been eagerly sought for in far-off lands; and as the ancient Romans revelled in imported dainties, so the Chinese, and those who trade with them, visit distant islands in search of the *Bêche-de-mer* "Trepang," or sea-slug (*Holothuria edulis*). These uninviting, slug-like creatures are in great request in the markets of China as an ingredient in the composition of the gelatinous soups and dishes in which the Celestials so much delight. With pickled sharks' fins, little squares of salt pork, and preserved bamboo shoots, the *Bêche-de-mer* makes a dish perfectly irresistible to a Chinaman. There are six kinds of slugs generally sought for, the best being those obtained by diving amongst the reefs and rocks where they are known to resort; others are taken either by torch or moonlight in the shallow pools, whilst the inferior kinds are gathered by hand from the rocks at low water. The various kinds, when selected and arranged according to their quality, are cleaned, carefully cut open, cooked in large caldrons in the water which they themselves yield, and are then thoroughly dried on shelves arranged in sheds constructed for the purpose. Large quantities of wood are expended in the process, as the slugs require very perfect

* A "pecul" consists of 133⅓ lbs., and is a weight generally used amongst the Malay and Javanese traders. It is equivalent to the "tan" of the Chinese.

preparation before shipment. Some idea may be formed of the number of these strange dainties collected by the slug-hunters, when we inform our readers that one trader obtained amongst the Fejee group, in exchange for various comparatively inexpensive articles of barter, 25,000 dollars' worth in seven months; and the importance of the trade in a commercial point of view may be estimated by the return made on one voyage—peculs of slugs collected, 1,200; cost of outfit, 3,500 dollars; return on sales, 27,000 dollars. The value of *Bêche-de-mer* ranges between ten and sixty dollars the pecul, according to quality.

The edible nests of the cave-swallow (*Collocallia esculenta*) are also extensively collected, and have been known to realize their weight in silver when sold in the Chinese markets. These nests are, like the slugs, made use of in the preparation of soups, for which purpose they are in very high repute. The rocky cliffs on the coasts of the islands of Borneo, Celebes, and some others of the Eastern Archipelago, contain numerous caverns frequented by these edible-nest-building swallows, the roofs being covered with their nests in different stages of forwardness. The source from whence the clear gelatine-like substance of which they are composed is obtained, remains doubtful. The birds, in flitting past the moist, slimy, half-tide rocks, appear to gather something from the surface; this may be some almost microscopic marine production which the bird only can perceive and utilize, or perhaps certain molluscs inhabiting these seas may *secrete* this substance. The newly-constructed nests are of the greatest value, whilst those containing eggs are considered not so good; the old nests in which a brood of young birds has been hatched being of the lowest quality and least esteemed, from the number of feathers often associated with them. The sea-slugs are procured along the shallow reaches and inlets of the innumerable islands dotting the Eastern seas, even as far as the inhospitable and savage Andaman group in the Bay of Bengal. Many valuable discoveries have from time to time been made by the *Bêche-de-mer* traders.

The dreaded *Buccaneers* were for many years simply food-hunters, who derived their name from *Boucan*, a term applied to a rough species of grate or hurdle used by them to barbecue or jerk the flesh of the wild cattle they hunted. These men were bound together by strange laws, made by themselves. Each hunter selected an especial comrade who shared his good or evil fortune, performed half the labour, and on the death of either, the survivor became the possessor of the common stock of arms and other valuables. Quarrels with the Spaniards and others led them to institute the formidable league known as the "Brethren of the Coast," who, in their day, made even kings quake on their thrones, and high admirals tremble. The inhabitants of a great number of the islands of the Eastern seas are indebted to the early navigators for the introduction of the pig, which, finding abundant and congenial food, multiplied rapidly and formed large herds, soon became wild, and by their abundance went far to prevent cannibalism; for although many of these fertile isles literally teem with the richest of vegetable productions, and the surrounding seas swarm with fish, a lurking regard for roast meat prevails, and in the absence of *short pig*, *long pig* is at times partaken of. The *Taro* root (*Caladium esculentum*), the bread fruit, the various edible fern roots, *Pteris esculenta* amongst the number, the sweet potato (*Battata convolvulans*), and many other vegetables and tuberous roots, are cooked in the primitive ovens of the natives; whilst the cocoa-nut affords food, drink, fishing-nets, clothes, cordage, oil, and timber.

In many of the Australasian islands and New Zealand vast quantities of sea-fowl (the *sooty petrel*, or mutton-bird, especially) are captured for food by the sealers and natives. These birds visit the islands annually in vast flocks, arriving generally about the latter end of November, for the purpose of depositing their eggs, of which each hen bird lays one or two, about the size of ordinary goose-eggs and somewhat similar in flavour. The cock bird takes charge of the nest during the day, and the hen by night, taking in turn the duty of going to sea for food. Perfect warrens, like those of rabbits, are formed by these birds, who burrow into the soft earth for a distance of two or three feet, and there form their nests. Some of the islands are so thickly and completely honeycombed by these feathered miners as to render walking a very unsafe proceeding. The collection of the eggs and young birds from the depths of the holes is a task usually assigned to the native women, who not uncommonly find a snake coiled up where the young petrel should be. When a large catch is determined on for preservation and the obtainment of feathers, a number of bird-hunters assemble, and construct a sort of hedge or fence a short distance from the beach, and just before daybreak, when the birds about to proceed to sea to feed are out of their retreats, a sudden rush is made by the whole assembled party of bird-catchers, who with the most hideous yells and cries drive the throngs of waddling, flapping victims, who cannot rise from the ground to fly, towards the centre of the fatal barrier, where a deep pit has been prepared for their reception; into this they are forced, layer on layer, until they literally suffocate each other in their vain endeavours to escape from the treacherous pitfall. The feathers, when plucked from the birds, are worth about threepence per lb., and it requires the joint plumage of about twenty to produce that quantity. Thirty bags of feathers, constituting the cargoes of two trading boats, were obtained by the sacrifice of 18,000 birds. A portion of the birds are preserved by dry smoking, and are extensively made use of. Some of the New Zealand tribes, by whom this bird is called the "Titi," have recourse to a most ingenious and effective method of preservation for it and some other articles of food. The petrels, after having been carefully plucked, have all their bones removed; they are then cooked over the fire in large shallow dishes or platters, made from the bark of the

Totara tree, and when sufficiently done are placed in the natural bottles or flasks formed on a species of sea-weed like a huge variety of the bladder-wrack (*Fucus vesiculosus*) of our own coasts; the heated fat from the birds is then poured in and the sea-bottle securely tied up. Provisions treated in this manner remain perfectly good for a very long time, being completely excluded from both air and moisture.

Eels and other fish are preserved in the same manner. The New Zealanders have some curious and superstitious notions regarding eels, their capture, and preparation; they say: "You must wash your hands before going to catch them, and also on returning, and the bait must be prepared some distance from the house; there must be a distinct fire for cooking the eel, for which you must have a special tinder-box; your hands and mouth must be washed both before and after partaking of them, and should it be necessary to drink from the same stream from which the eels are caught, you must have two vessels of water, the one to drink from, the other to dip from the stream."

Among the hunters of Africa, an elephant's foot, baked in a deep hole beneath the camp fire, is esteemed a great delicacy, as is a buffalo's hump, with the skin on, prepared much in the same manner, by the hunters and trappers of North-West America. These hardy explorers and fur-hunters prepare a very portable and wholesome food, called *Pemmican*, which is thus made:—Buffalo's flesh is cut into convenient flakes and flat layers, like long, thin steaks; these are either hung in the sun or near a slow fire until dry, when the dried meat is ground between two stones until sufficiently fine; a bag is then made of buffalo-hide with the hair side out, and pulverized flesh, after being thoroughly mixed with hot fat, well pressed in; the bag is then securely stitched up and the Pemmican allowed to cool and harden. When required for use, it is cut from the mass like hard sausage-meat, and either eaten cold, or, when mixed with flour or meal, a sort of thick porridge, called "Robiboo," is made from it.

The vast clouds of locusts, which in some countries both darken the air and devastate the land, are eaten greedily by nearly everything possessing life; men, animals, birds, fish, and insects all join in the locust feast. The provident savage lays by a store nicely smoke-dried to consume at his leisure, with such tuberous roots or other underground productions as his sable spouse, armed with her sharp-pointed grubbing-stick, can procure for him. Manna, too, is a substance, the name of which has been rendered familiar to all by the mention made of it in the Scriptures. In the sixteenth chapter of Exodus, the fifteenth and following verses, reference is made to the miraculous supply of this food to the wandering Israelites. Josephus says: "The Hebrews called this food manna, for the particle *man* in our language is the asking of a question. *What is this?* (*Man hu.*)" The Persian writers often mention manna, and it appears to have been known to both them and the Arabs in very early ages; one kind, called *Guzunjbeen*, is in pretty general use; it is obtained from a shrub called *Guz*, a species of tamarisk. The same description of manna is in some districts called *Toofra*. It is known by that name, and is common at many ports on the Arabian coasts, and throughout the tract of country surrounding Mount Sinai. The manna is usually collected during the months of June and July, amongst the tamarisk thickets, where it drains from the ends of the thorns, and falls on the dry leaves and small sticks which have fallen to the ground; it then congeals into hard masses, and is in that condition gathered for use. The Arabs use it as a substitute for honey, eating it with their bread or other food. A thorny tree, known as the *Camel thorn*, growing in the north of India and Syria, is also manna-yielding, producing the description called *Al haj*, or Persian manna. *Beiruk honey* is in reality manna, and is obtained from the *Ghrab tree*, which is not unlike a stunted aspen. There is also a kind found in the country of Uzbecs, said to be procured from a small tree with a jointed trunk. The Ashur plant of the Arabs yields a kind of manna known as "Arab sugar," or *Shukur el ashur*. There is a description, also, in high repute throughout Persia as a medicine, obtained from a peculiar willow growing in low, moist valleys. A tree of the oak family, found in Mesopotamia, produces its manna, yielding the largest quantity where gall-nuts are most abundant. The *Manna Brigantiaca* is the produce of the larch, whilst the cedars of Lebanon furnish a kind of their own. These various descriptions are supposed to be the result of punctures made in the trees by an insect called *Coccus manniparus*. Large quantities of manna were at one time imported into this country from Sicily and the south of Italy; but comparatively little is now consumed. This is the produce of three varieties of the common ash; two kinds are most common—*Ornus Europæa* and *Fraxinus rotundifolia*. To obtain the manna from these, incisions are made in the bark of the stems with knives prepared for the purpose. The first cut is made near the ground, and others, at two inches apart, two inches long and half an inch deep, are proceeded with at the rate of one cut per day in each row of incisions, working gradually upwards. Immediately below these longitudinal wounds, T-shaped cuts are prepared for the reception of the ends of leaves, gathered from the tree, which act as conductors to carry the sap clear of the trunk, and admit of its dropping into Indian fig-leaves placed on the ground to receive it. These fig-leaves have the peculiar property of drying with their edges curled up, rendering them extremely useful for the reception of the sap, which soon hardens in the sun and air. We have often seen them used by the Indian devotees to place offerings of honey and native butter in, to lay before their idols. August is the month usually selected for tapping the trees, and dry, warm weather is most favourable for the operation, as rain dissolves

and destroys the congealing mass of produce. The manna collected from the bark by scraping, after having run in long tears down the trunk, is considered very inferior to that caught in the fig-leaves, and is sold at a lower price. It has been supposed that during a peculiarly still state of the atmosphere the sweet exhalations from certain plants and trees may become again condensed and fall to the earth in the form of dew, and there are many phenomena connected with these honey-like showers extremely difficult to account for in any other way.

Snakes, the larva of a large burrowing wood beetle, the iguana or fringed lizard, bats, and even a peculiar species of spider, are all made meat of. Earth is also at times eaten to allay the pangs of hunger, until good fortune reveals something more nutritious; and bark has been found no bad material to fall back on when other bread-stuff has proved scarce. The hide from boots, shoes, and moccasins has, on many occasions, served to prolong the lives of ship-wrecked mariners and wandering hunters. Notwithstanding its splendour and wealth, the densely-crowded city is, after all, the region in which starvation in its greatest horror is more to be dreaded by the friendless outcast than in Nature's own kingdom—the unreclaimed wilderness.

ESPARTO AND ITS USES.

(*Gramen spartum*, Plinii; *Stipa tenacissima*, Linn.)

ON no point is Nature so hardly pressed as in the pursuit of vegetable fibre. The race of Adam increases apace, and must have the wherewithal to be clothed. We read and write, muse and think, with increasing energy, and must have paper as a vehicle for our mental pabulum. So, in order to supply the wants of a civilization unparalleled in its extent and unsurpassed in the multiplicity of its necessities, Science and Art, Manufactures and Commerce, are allied as an army of attack on Nature's varied and abundant products. But, although the quest be keen, and our knowledge of the uses of substances so extended as practically to obliterate the word "waste" from our vocabulary, the demand for vegetable fibre still waxes instead of wanes, and the earth, both in its wildernesses and cultivated places, is ransacked for something known, and, failing that, for something new. Men of science, skilled in the indicia of plants, naturalists hunting in untrodden solitudes, soldiers in cantonments in some out-of-the-way corner of the globe, traders and voyagers of every class, make up the army of observation. The field comprises the western and southern coasts of Africa, the subtropical regions of America, the islands of Polynesia and Australasia, and the whole of the lower portion of the vast Asiatic continent; but the conditions on which the great prize can alone be won are so complex that a new material fitted alike for fine textile and felting purposes, practicable in respect of cost and supply, remains undiscovered.

It must not be assumed, however, from the failure to secure a high-class fibre, answering in every respect to the requirements of modern manufacturing science, that the diligence and labour bestowed in the search have been expended in vain. On the contrary, many useful sorts, as well as some of exceeding beauty, have been brought to light and utilized in a variety of ways, and when the protean shapes which fibre can be made to assume are considered, it will be obvious that there is verge and room enough for all. For example, it enters largely into the composition of the elegant panels of our carriages, as well as of papier-mâché in its varied artistic forms. It is moulded into cabinet-work, twisted and otherwise fancifully dealt with in the production of art ornaments for the drawing-room and *bouloir*. It is substituted for bones in cutlery, for hair and bristles in brushes, and so on, through every department of formative art. Some fibres there are which, from their abundance and peculiarity of structure, have been dedicated to particular uses; such as jute, as a substitute for hemp in ropes, and in the manufacture of coarse north-country sacking; but this is not where the shoe pinches. That which is so eagerly desired is a fibre capable of being easily cleaned, dressed, bleached, spun, and woven into the goods of Manchester and the stuffs of Bradford: something that shall come in aid of cotton and flax, shall dye well, and generally submit in a satisfactory manner to all the processes preliminary to its conversion into raiment. Nor would its mission end here; for after having draped the dusky forms of the Egyptians and Syrians in blue, the Eastern Asiatics in white, the sable Venuses of the Gold Coast in colours brilliantly incongruous, and made the ladies of the temperate zone "beautiful for ever," it must return, perchance in shreds, with the robustness of its early constitution mellowed by age, to be pounded and torn, recleaned, rebleached, fabricated into paper, and sent forth, again and again, as the servant of an intelligence as grand as it is inscrutable.

Who has not heard of the lamentations of the paper-makers, whose wailings on the paucity of rags, and the total absence of fibre suited to their requirements, were followed by mortuary dirges on the decline and fall of their beautiful manufacture; whilst, as a contemporaneous fact, there continued to bloom and die on the arid plains bordering the sunny Mediterranean, a perennial plant, containing within

its wiry stem no less than 73 per cent. of fibre, eminently suited to their wants. This plant is the *Gramen spartum*, Plinii, *Stipa tenacissima*, Linn. By the Spaniards it is called Esparto, and by the French Alfa. It is placed by botanists among the sedges, and is indigenous to the southern shores of Portugal, Spain, and Italy, as well as to the coast of Northern Africa, from Algeria to the confines of Egypt. It grows in tufts like a rush, is perennial in habit, attains a height of from 18 to 30 inches, according to situation, and, having a basis of silica and iron, flourishes on arid soil. Its principal *habitats*, however, are Spain and Algeria, from which countries a supply sufficient for all present demands may be drawn with ease. There is probably no plant within our knowledge which possesses so remarkable a history as that now under review. Pliny, that most careful and observant of naturalists, gives a surprisingly accurate description of the *Spartum*, and enumerates the uses to which it was put in his day. He speaks of it as a morbid production—"confined to a single country only; for in reality it is a curse to the soil, as there is nothing whatever that can be grown or sown in its vicinity." He describes the species of spartum found in Africa as of stunted growth, of no use whatever for practical purposes; and, altogether, he seems to entertain a very poor opinion of the African variety. It is interesting to note the similarity of uses found for the plant in the days of Pliny to those prevailing in our own. Then, as now, the peasantry stuffed their beds with it, and, no doubt, obtained as springy a couch as is yielded by our own native heather. It was used as fuel, made into torches, woven and plaited into summer garments for the shepherds, and manufactured into shoes which, under the name of Alpargates, are still extensively used by the poorer inhabitants of the Iberian peninsula. It was also very largely used for cordage; and we have the authority of Mr. M'Culloch for the statement that cables made from Esparto, were some years ago—if they are not still—preferred in the Spanish navy to similar stores made from hemp. Merely to enumerate the articles of utility into the construction of which Esparto entered, would in fact be a recapitulation of the utensils and appliances appertaining to the domestic economy and manufacturing industry of the Spaniards and Carthaginians. Pliny most appropriately designates his *Gramen spartum* a marvellous plant; and the reflection is by no means a flattering one that, notwithstanding his painstaking researches, and the uninterrupted use of the plant in the same districts through centuries of time, we should have failed to bring our chemical knowledge to bear on its constitutional difficulties, until our need became so *exigeant* as to render further neglect well-nigh impossible.

During the past ten years the French have been indefatigable in the prosecution of researches in the utilization of Alfa as a paper-making fibre, and it is to the *savans* of that country that we are primarily indebted for a knowledge of the economic conditions of the plant; possibly because it grows abundantly on a portion of their own territory, the natural resources of which the French Government are most anxious to develop. The province of Oran, in Algeria, is that in which the traffic in Alfa is mostly concentrated. There it alternates with the Dwarf Palm and Asphodel, and it grows luxuriantly from the coast up to the minor peaks of the contiguous mountain ranges. The crop should be gathered in the months of April, May, and June, varying according to the forwardness of the season; the object being to secure the plant while yet green, yet as near as possible to ripeness. If gathered too green, the fibre is deficient both in quantity and strength, whilst if allowed to ripen fully, the constituent elements of silica and iron are established too securely in its structure. The best time for collecting, according to Pliny, is between the Ides of May and those of June, a statement which has been fully confirmed by modern practice. On the best method of gathering, the ancient philosopher is equally in accord with our own observations. The plant, he says, is twisted round levers of bone or holm oak, to get it up with the greater facility. It has been proved experimentally, that this is the best mode of reaping the crop, having a due regard to the succeeding harvest, as cutting not only injures the plant, but altogether endangers its vitality, thus rendering the labour of collection exceedingly severe, as the workman must both pull and stoop as he traverses the ground. The *modus operandi* is very simple. Providing himself with a stick of moderate thickness, the labourer grasps a handful of Alfa, twists it round the stick, and, by a sharp pull with both hands, disengages the stalks at the articulations. Securing the bunch under his left arm, he pulls away until, no longer able to hold the produce, he throws it down to be tied into a bundle called a *Manada*, and proceeds with his work *de novo*. These bundles are then ranged in the field to dry, a result which is usually attained in a week, during which time the Alfa loses about 40 per cent. of its weight. The bundles, or *Manadas*, are then packed into bales and carried to the port of shipment. It is not improbable that, in course of time, the propagation of Alfa with a view to increased supply may be requisite in places suited to its growth, as it is only in particular areas that its preparation for export can be conducted, on account of the cost of carriage to practicable shipping points on the seaboard. At present the demand from England and France is exclusively on behalf of the paper manufacture; but should the application of the fibre be extended —and there is no reason why it should not be so with great advantage, its culture will become an important branch of Algerian husbandry. Arrived in this country and stored at a paper-mill, the *Manadas* should be ranged so as to allow of the roots and tops being pulled, an operation which clears the Alfa from a good deal of waste substance adhering more or less to the stalks. It has now the appearance of dried rushes, firm and wiry to the touch, and as unlikely-looking a material from

Day & Son, lithrs to

which to manufacture white paper as can well be imagined. Nothing, however, can be simpler. After having been opened and well shaken out, the stalks are thrown into a boiler containing a strong solution of caustic alkali, and are boiled until a handful can be twisted asunder with ease. It has now parted with a good deal of colouring matter, and is ready, after having drained sufficiently, to be broken and washed—operations which are carried on simultaneously in what is technically known as a "washing engine," an elliptical trough having the machinery on one side of a partition, placed down the centre of the engine, but terminating at some distance from either end; the effect of this arrangement being that the material in the engine is made to flow round the partition, or "midfeather," by the rotary action of the machinery. The Alfa now gradually assumes a light yellowish tinge, and with the introduction to the engine of a quantity of chloride of lime the process of bleaching commences. Meanwhile the Alfa is being drawn out into fine short filaments by the triturating action of the machinery. Gradually all colour departs, and, as it flows round the engine, the stuff more nearly resembles a duct of snow-white cream than anything else to which it can be likened. Now the shutters of the washing cover are withdrawn, in order to thoroughly eliminate the "bleach." That done, and the stuff finished as regards sizing and tint, a valve in the bottom of the engine is drawn, the prepared Alfa plunges into the stuff chest at the head of the paper-machine, and, in less time than is consumed in recording the fact, is ready for the hands of the printer.

Nearly allied to Esparto is the *Stipa pennata*, Linn., or feather-grass, which adorns the verdant banks and lane-sides of this country. History saith that the nodding plumes, which are its most striking characteristic, were at one time used by British ladies in the embellishment of their head-dresses. Whether we shall ever clothe our agricultural hinds in Alfa jackets and Esparto shoes, this deponent sayeth not; but even though the plant be never used in England beyond its present limits, the reader will agree with us, that the humble African rush, known in botanical nomenclature as the *Stipa tenacissima*, Linn., is one of the most remarkable and beneficent members of the great vegetable family. B. L.

THE AMERICAN WATER-WEED.

(*Anacharis alsinastrum.*)

By the Rev. W. Houghton.

MOST of our readers are doubtless acquainted with the form of the remarkable plant which made its appearance about seventeen years ago in our rivers and canals, and which in some places has become, from its rapid increase and the difficulty of keeping it in check, quite a nuisance. The history of the introduction into this country of *Anacharis alsinastrum* is not known. Botanists are, for the most part, agreed that it is a stranger, and that it belongs to North America, but the mode of its advent into England and Scotland remains a mystery. The plant appears to have been first observed by that excellent naturalist Dr. George Johnston, in the month of August, 1842, in the lake of Dunse Castle, Berwickshire, which lake is situated upon a tributary of the Whiteadder river, an affluent of the Tweed. "Dr. Johnston sent specimens to Mr. Babington, but little was heard of the aquatic intruder till it was found by a lady, Miss Kirby, in certain reservoirs adjoining the Foxton locks, on the canal near Market Harborough, in Leicestershire: this was in the autumn of 1847." The plants were all *females*, and were found in considerable abundance, growing closely matted together. The reservoirs had only recently been cleaned; consequently the appearance of the weed in them had most probably been recent. The attention of botanists having been again turned to this plant, Mr. Babington, in December, 1847, read a paper before the Botanical Society of Edinburgh, "On Anacharis alsinastrum, *a supposed new British plant.*" This paper was published in the "Annals and Magazine of Natural History," Second Series, No. 2, February, 1848; and there was added to it a synopsis of the species of Anacharis and Apalanthe, by Dr. J. E. Planchon; the paper was also illustrated by an admirable engraving. When Dr. Johnston (the first discoverer) read Mr. Babington's account, he immediately recognized in it the weed he had observed in the lake of Dunse Castle, where he again found it in great profusion, as well as in patches down the Whiteadder in its course to the Tweed.

About the same time the Anacharis made its appearance in Nottinghamshire, in the river Lene, a tributary of the Trent, "growing in great profusion for about a quarter of a mile in extent." It was the same year observed abundantly in the Watford locks, Northamptonshire, "on the same line of canal as the Foxton reservoirs." In the year 1849 it was observed in profusion in the Trent, near Burton; it was noticed near Rugby in 1850, and in the Cam in 1851. Mr. Marshall, of Ely, in his first letter to the "Cambridge Inde-

pendent Press,"* thus speaks of it:—"A remarkable plant has recently made its appearance in the rivers Ouse and Cam, and already abounds to such a degree, as not only to impede navigation, but, what is of far more importance in this fen country, to threaten injury to our drainage." In Letter III. he speaks of it "growing in dense submerged masses, distinguishable at once from all other weeds by its leaves growing in threes round a slender stringy stem. The colour of the plant is a deep green, the leaves are about half an inch long, by an eighth wide, egg-shaped at the point, and beset with minute teeth, which cause them to cling. The stems are very brittle, so that whenever the plant is disturbed fragments are broken off. Although at present it cannot propagate itself by seed, its powers of increase are prodigious, as every fragment is capable of becoming an independent plant, producing roots and stems, and extending itself indefinitely on every direction." Mr. Marshall speaks of it as having been a great source of annoyance to the watermen of the Cam, to sluice-keepers, to rowers, and to swimmers. Since that gentleman published his pamphlet on this water-weed in 1852, the Anacharis has spread far and wide, and has now become common in almost every canal, stream, and pond; causing, in some cases, a very great amount of inconvenience to navigation, besides choking up our fish-ponds, &c. &c.

The rapid spread of the Anacharis is easy enough to account for, when we consider how, on the one hand, the kingdom is intersected with rivers, canals, and streams, which often communicate with each other, and how readily the smallest bits of the weed grow without any root at all. But the question as to its mode of introduction into this country is not so easily answered. I ought to say that some botanists have affirmed that it is no foreigner at all, but a true native; but this idea is improbable. The *Anacharis alsinastrum* is the Elodea *Canadensis* of North America, where, with other species or allied genera, it is common in the rivers. From North America, then, it is most probable our plant originally came; but how did it get here?

There are, as Mr. Marshall says, "various ways in which a plant may be imported. A botanist, in the ardour of that botanical instinct which prompts him to surround himself with as many as possible of the beautiful and varied forms of vegetable life, might have introduced it; but we have no evidence that such has been the case, although botanists have been known to do such things." The same writer thinks it most probable that the Anacharis was introduced at or about Rugby with American timber, during the execution of some of the numerous railways which meet at that point. "We know," he adds, "that in North America the timber is floated down the rivers, in which case fragments of the American weed would cling to it, or seeds might find their way into the clefts of the wood, and if *but one* seed or one fragment retained its vitality in some moist cranny till it reached its final destination, I verily believe it would be sufficient to account for the myriads of individuals that now exist in England."

But it is useless to speculate; the real mode of its introduction will probably never be known. And now we have to account for the presence of the male plant in this country. Hitherto all the individuals observed have been females; but Mr. Bentham and Dr. Oliver tell me that the male plant has, they believe, made its appearance somewhere in the neighbourhood of London during the last summer. This is not very pleasant news, for the one sex was troublesome enough. The question as to how the Anacharis came into the Cam is easily answered:—

"In 1847 a specimen from the Foxton locks was planted in a tub in the Cambridge Botanical Garden, and in 1848 the late Mr. Murray, the Curator, placed a piece of it in the Conduit stream that passes by the new garden. In the following year, on Mr. Babington asking what had become of the stick which marked the site of the plant, he was informed that it had spread all over the ditch. From this point it doubtless escaped by the waste-pipe across the Trumpington road into the 'Vicar's Brook,' and from thence into the river above the mills, where it is now found in the *greatest profusion*. In the case of the Cam, then, we see it *proved to demonstration* that the short space of four years has been sufficient for *one small piece* of the *Anacharis* to multiply so as to impede both navigation and drainage."

I first noticed this weed in the Shropshire Union Canal about two miles from Newport, about ten years ago; it grew in dense patches here and there. Since that time, till within a year or two ago, it grew to such an extent as to destroy almost all other aquatic vegetation. In the "struggle of life," the Potamogetons, the Myriophyllums, and the Water Ranunculuses, disappeared, leaving the Anacharis almost the sole occupant of the water. It used to flower abundantly from July to the end of September, in several places in the canal, but within the last two years or so the Anacharis has almost disappeared; and when I wanted specimens in blossom last autumn for examination, I had to go for them to another branch of the canal, four miles distant, as I could find none where formerly they were so abundant. The Potamogetons and Myriophyllums have since returned. What has been the cause of the disappearance of the Anacharis? That the swans eat great quantities of this weed I have repeatedly seen; but then there was the same number of swans in the canal when the weed was so luxuriant. Pond snails—as the *Lymnei*—eat the weed; and whether it has been unable to bear up against the repeated attacks of swan and snail, I know not: probably to this cause in part, and partly to the fact that quantities are taken out by the canal-keepers and by nets, we must attribute its disappearance.

The Anacharis is one of those plants in which the so-called "circulation" may be conveniently observed. This curious movement of the chlorophyll granules, so familiar to microscopic observers

* See Mr. Marshall's Pamphlet on "The New Water-weed." London: W. Pamplin, 1852.

in the *Characeæ*, may be readily seen by placing a leaf on a glass slide with a little water, and viewing it under the microscope with the quarter or the eighth-inch objective.

It is one of the three genera which form the family *Hydrocharideæ;* the Frog-bit (*Hydrocharis morsus-ranæ*) and Water soldier (*Stratiotes aloides*) being the other two. The genus *Anacharis*, or *Elodea*, as some botanists prefer to call it, is thus characterized by Bentham, in his admirable "Handbook of the British Flora" :—

"Stems submerged, branched, and leafy; flowers sessile, the males with nine stamens, the females with a long, thread-like perianth-tube. Style adherent to the tube, with three notched or lobed stigmas. Ovary one-celled, with three parietal placentas. A small genus, exclusively American."

The specific characters are thus described by the same author :—

"A dark green, much-branched perennial, entirely floating under water. Leaves numerous, opposite or in whorls of three or four, sessile, linear, oblong, transparent, three or four lines long. Female flowers, the only ones known in this country, sessile in the upper axils in a small two-lobed spatha; the slender perianth-tube often two or three [sometimes five or six] inches long, so as to attain the surface of the water, where it terminates in three or six small spreading segments. Male flowers unknown as yet in this country, and seldom observed anywhere. Flowers summer and autumn."

The specimen from which the accompanying illustration was made was gathered last autumn, in Warwickshire, by Mr. R. S. Chattock, of Solihull, an accomplished amateur artist, and drawn by him for this Magazine.

Explanation of the Plate.

Fig. A represents the Anacharis as it grows submerged, the little pink flowers appearing above the surface of the water, natural size.

Fig. *a*, a flower magnified, showing the perianth of six segments, the three stigmas, and the three abortive stamens.

Fig. *b*, the same, stripped of the petalous part of the perianth, showing more clearly the stigmas and stamens.

Fig. *c*, the two-lobed spatha enclosing the lower portion of the perianth-tube, magnified.

Fig. *d*, a section of the bottom of the perianth-tube, showing ovary with its three contained ovules, magnified.

Fig. *e*, an ovule, magnified.

Fig. *f*, transverse section of portion of stem, showing arrangement of leaves round it.

PETER VON CORNELIUS.

THE great German painter who died during the month of March was then in the eightieth year of his age, for he was born in September, 1787, in the town of Düsseldorf. His father was director of the museum at that place; and thus, from his earliest days, the young Cornelius was associated with the arts. His desire to be a painter was not repressed or reproved by his parents, and in his seventeenth year he had already begun his studies in art with much promise of future excellence. It was then that his father died; and as there devolved upon him and upon an elder brother the care of mother and young ones, it was a question whether he ought any longer to think of pursuing the painter's profession. It was suggested that he should adopt some handicraft which might prove more quickly remunerative; but the difficulty was surmounted, and he clung to art. Good fortune came to him sooner than to most men, for some of his earliest designs attracted notice and were admired. The study of the antique, inculcated by Winckelmann, had not entirely engrossed his attention. He had fallen, rather, under the influence of a modern writer,—the greatest Germany has produced. The comprehensive, the all-embracing genius of Goethe acquired a lasting power over him: that genius which grappled with the noblest subjects, and never disdained to treat even of the smallest details of any branch of art,—as witness the dramatic criticism in "Wilhelm Meister." A series of designs illustrative of "Faust" first displayed the creative force of the young Cornelius. Niebühr wrote about him, in after years, "Cornelius is an earnest enthusiast for Goethe; perhaps none more so: certain is it that Goethe has inspired no other person so fully and so powerfully."

The artist was but nineteen when he produced another and a kindred work,—the illustrations to the "Niebelungen Lied." Thus, national subjects early took possession of his mind. But they were not to retain exclusive possession. In Rome he would be subject to classic influence, and to Rome —the goal of every painter's first ambition—Cornelius desired to go. He was twenty-four years old, however, before the project could be matured; and, when at last it was carried out, he intended to make a very long sojourn in the classic capital. He found congenial society there. Young and aspiring fellow-artists gathered round him,—Schnorr, Veit, and the brothers Schadow. There too, and always in close companionship with Cornelius, was a greater spirit than any of these,—Overbeck, the pure, the noble, the refined: the Fra Angelico of our time. With Overbeck Cornelius dwelt, in an old convent, and in the simplest style. The two friends were nicknamed St. Paul and St. John. Cornelius, with his ardour and energy, his comprehensiveness and tolerance, was the St. Paul; Overbeck, with his rare gifts and loveable graces, but with a power less practical than that of his brother artist, was the St. John.

Cornelius took part in the decoration of the

Villa Bartoldi, and had to thank the Prussian Consul-General, whose residence that villa was, and the Prussian Ambassador, Niebühr, for patronage and influence kindly exerted. The Crown Prince of Bavaria was able to bestow upon the rising painter a more substantial reward than any he had before received. This royal German, being greatly impressed with the promise Cornelius showed, proposed to carry him off to Munich to decorate the favourite city,—the greatest and most costly "Ludwig's Lust." At first Cornelius hesitated—he doubted, perhaps, whether he had been long enough in Rome;—but evidently this was such an opportunity as might not occur again. It was well to take it while it offered, and Cornelius decided to do so. He had looked with no exclusive eye upon classic art; but he knew that Italy was the best school for him,—the school in which lessons varied and valuable might best be learned. For there, in Italy, on ground that is dear to both, the lover of the mediæval meets the lover of the antique: the heroic painter may there learn tenderness; the religious painter, strength. Cornelius had, on the whole, profited by the time he had spent in Rome; and he was full loth to leave it. It may be, however, that he left it just at the right moment. Had he stayed longer, he might have lost that German character which some of his best works—his best of all indeed—now possess. Looking at the gigantic attempts to reproduce the form and presence of the antique, made when Cornelius went to Munich, immediately after his residence in Rome, one is inclined to think that he did not return to Germany too soon.

In the Bavarian capital there was much to be done. The decoration of two large halls in the Glyptothek was confided to Cornelius. One of them is styled the Hall of the Heroes; the other, the Hall of the Gods. The compositions placed by the painter in both are intensely classical, using the word rather with reference to form and letter than to the spirit, and not exactly in the sense in which one would say that the compositions of Ingres are classical. The German painter was more successful when he took Michael Angelo for his model, and did for the Ludwig's Kirche at Munich what had been done for the Sistine Chapel. "God the Creator" and "Christ the Judge"—two great compositions in this Munich Church—are works which will do very much to perpetuate the painter's fame. They are two, and by far the most important, of a great series illustrating the Christian creed. "Christ the Judge" is perhaps the noblest of his efforts. Never was he more ambitious than in planning this work; and if, when we have admired the correctness of the drawing, and the dramatic expression of the whole, we stop to notice the crudeness of its colour, our respect for the painter should not be lessened. His attainment was high; but his attempt was higher. And this is right. For in all art,

> "A man's reach should exceed his grasp,
> Or what's a Heaven for?"

Fifteen or twenty years were occupied upon the decoration of Munich. Besides the frescoes in the Glyptothek, and the great compositions in the Church of Ludwig, there was executed by Cornelius, in the Pinakothek, a great work illustrative of the history of art. When all these things were done, the artist took some leisure, and visited Paris and London. Another great opportunity was soon to fall into his hands; and that was a commission from the King of Prussia to compose a "Christian Picture Cycle" for the decoration of the Campo Santo or Royal Mausoleum, destined to form one of the wings of the new cathedral. "The Four Riders of the Apocalypse"—one of the designs executed for this place of burial—is one of the most characteristic of Cornelius's works; perhaps the most powerful of all. It is not beautiful; it is not attractive; it would never be popular with the admirers of conventional sentiment, borrowed graces, and namby-pamby mediocrity. But it is strikingly original. It is a thoroughly German work. The weird power of the North is in it. In painting it, Cornelius went back to the early traditions; and the spirit of his own race nerved him for the task. There is something of a savage strength about it; but instead of its being the work of an untutored mind, the brain that conceived it, and the hand that wrought it, had learned lessons enough from the masters of old days, and were but now drawing forth from the sources which had always been within the artist himself.

We have briefly spoken of the chief works of Cornelius. Only the barest record of his life is it now possible to give. He died at a ripe old age, when he had gained the love of many, and the respect of all. Members of his school are scattered over Europe; some of them famous already. Even in England his influence is not unfelt. Throughout his career Cornelius was a prophet who was by no means without honour in his own country. Bavaria and Prussia loaded him with rewards; and, so long ago as 1838, he had the satisfaction to know, by his election as a Foreign Member of the Institute of France, that he was duly esteemed in that land from whose verdict on art questions there is, in these days, no appeal.

THE MICROSCOPE.

UNDER this heading we propose to give, from month to month, a series of notes upon the progress made in microscopic research and the improvements recorded in microscopic appliances. Every one has a microscope nowadays, and, what is more, nearly every one who possesses an instrument turns it to some account in the investigation of various forms of animal and vegetable life. Hence a good many of our readers must be anxious to know what other microscopists than themselves are doing, and this information we purpose giving them. Our subject naturally divides itself into two sections, one relating to the discoveries made with the assistance of the microscope, and the other to the new forms of apparatus devised to facilitate the study of microscopic objects. We shall treat of the discoveries first.

The event of greatest novelty, though not of greatest importance, in the recent history of microscopy, is the discovery of the so-called *gregarinida* in the false hair of which ladies' chignons are composed. This startling discovery, which was first announced in England in the pages of the *Lancet*, was subsequently commented on by the *Daily Telegraph*, after the usual fashion, and not only gave rise to a feeling of considerable dissatisfaction and annoyance among ladies, but had the much more serious effect of materially damaging the chignon trade, and throwing many poor people out of honest employment. A professional journal like the *Lancet* should not have permitted the insertion of the paragraph describing the gregarinida of hair. The individual responsible for it must either have been very ignorant of zoology or must have pandered to the never-dying desire of penny-journalism for something sensational. The examination of the infected hair, which was conducted by several microscopists of eminence, has proved incontestably that there are no such things as gregarinida to be found in hair. The original account in the *Lancet* describes the gregarinida as proceeding from the common pediculus of the louse and attaching themselves to the hair, and it certainly conveyed the impression that they were a species of insect. Nothing could be more absurdly erroneous than this. Not only have no gregarinida been found in the pediculus, but even did they exist in this insect, or were they discharged from it, they could not possibly live upon the hair. They are the very lowest form of animal life, lower than even the sponges or the infusorial animalcules. "They are the inhabitants of the bodies, for the most part, of the invertebrate, but also of the vertebrate animals, and they are commonly to be found in abundance in the alimentary canal of the common cockroach and in earthworms. They are all microscopic, and any one of them, leaving minor modifications aside, may be said to consist of a sac composed of a more or less structureless, not very well defined membrane, containing a soft semi-fluid substance, in the midst or at one end of which lies a delicate vesicle; in the centre of the latter is a more solid particle. . . . The *gregarinida* are devoid of mouths and of digestive apparatus, living entirely by imbibition of the juices of the animal in whose intestine or body they are contained." * The character of these creatures in the perfect reproductive stage has not been made out, so that the foregoing description embraces pretty nearly all we know about them. It is evident, however, that they could not exist on hair under any circumstances. However, it must be admitted that many specimens of hair contain both animal and vegetable parasites. The animal parasite is the common pediculus; the vegetable varieties belong to the Algæ (sea-weed tribe) and the Fungi (mushroom tribe). The pediculus accompanies living hair only; it requires the warmth of the human body as one of the conditions of its life, and therefore it cannot exist in the hair from which such ornamental appendages as chignons are manufactured. The egg-cases might be thought to remain, but it is not so. The process of cleansing to which the hair is submitted completely removes them. But that they are present in the crude hair which comes to the manufacturer is undeniable, for in a specimen of the refuse from one of the hair machines examined by us, the particles of hair were found in many instances to have these empty egg-capsules attached to them. As to the vegetable parasites we doubt their being of much importance. No doubt fungi are productive of many serious hair diseases; but, so far as we have been able to determine, these species are not present in the hair of the chignons. It is, however, a fact, that in many samples of hair employed in the manufacture of chignons, a number of minute particles, evidently not part of true hair structure, may be found. These, when first placed under the microscope, appear to be vesicles, which, under a high magnifying power, seem to be divided into two, four, or eight compartments. This is a feature which calls to mind the elementary Algæ, to which, no doubt, the particles belong. Beyond this stage in their history we have not examined this parasitic growth; but two or three microscopists interested in the matter have caused these elementary particles to go through the whole course of their development by placing them in a solution of sugar and water. The observations of such specimens shows that they are undoubted algæ, since they present the usual spores and antheridia. There is no reason to believe that, even if present

* Huxley, "Lectures on the Elements of Comparative Anatomy." Churchill, 1864.

in the chignons, they could possibly germinate, and thus pass from the artificial to the natural hair. This is all that can be fairly said in regard to the notorious "gregarine" discovery.

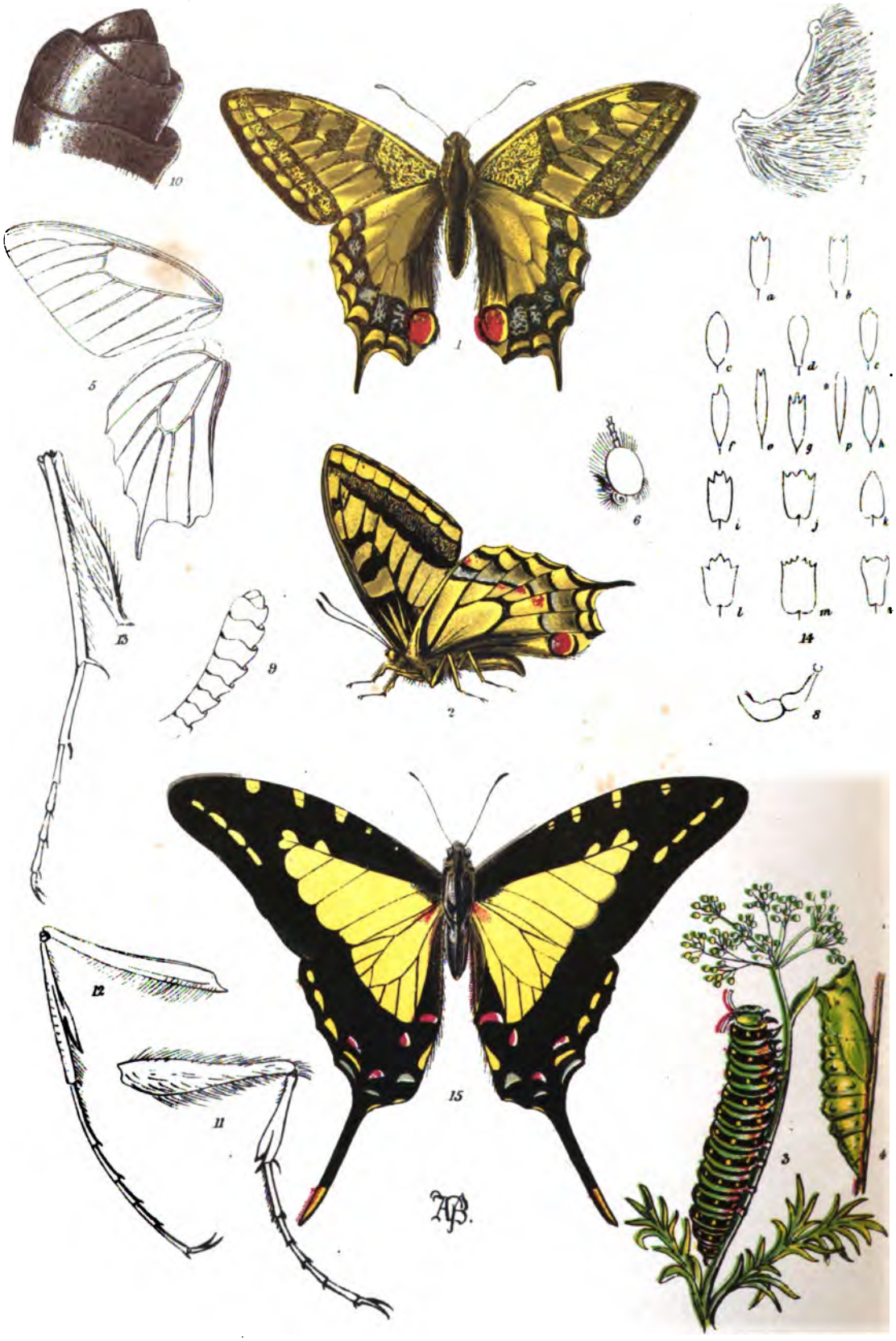
The microscope has recently been employed with advantage in the study of physical geology. Sections of fossils have frequently been examined under high magnifying powers, and many important points have been thus made out; but till quite recently the microscope was not employed in the examination of rocks. Mr. David Forbes, F.R.S., has called attention to the fact that rocks which it is difficult otherwise to distinguish from each other may be readily discriminated when thin sections are placed in the field of the microscope. He himself has found this method of inquiry of the highest importance in the course of his numerous investigations into the metallurgical value of various minerals. Mr. Sorby, F.R.S., has also, we believe, employed the microscope to discern the intimate structure of metals and minerals, and is still engaged in researches of this kind. In the field of palæontology (the science of fossils) the microscope has lately thrown much light on inquiries which could hardly have been completed without its assistance. Mr. Carruthers, of the British Museum, and Mr. E. Ray Lankester have made out some interesting points of structure by submitting thin slices of fossils to microscopic examination. The former has been engaged in examining our fossil plants, especially those from the coal formations, and has considerably modified what were before regarded as orthodox views. The latter has, with the assistance of the microscope, been able to show that a fossil fish examined by him is quite new to science. Of course, his conclusion is in some measure based upon the general form of the fossil, but the microscopic evidence is equally important. It so happens that in the family of fossil fishes known technically as the *Cephalaspidæ* there is one division the bones of which possess small irregular cavities with lines proceeding from them. These cavities are called *lacunæ*, and in order to see them a very finely-ground thin slice of the bone must be placed under the microscope. In trying to discover the species to which his specimen belonged, Mr. Lankester submitted a delicate section to microscopic examination, and he soon perceived that these *lacunæ* were not only present, but were large, and "very densely packed, arranged at right angles in the different lamellæ of the bony material, so as to produce the appearance of cross-hatching."* This discovery removed much of the difficulty of the diagnosis, and helped, with the external characteristics, to indicate the true relations of the fish, which Mr. Lankester has named *Didymaspis* (δίδυμος, twin, and ἀσπίς, shield).

In the department of botany microscopists have not been idle. Herr Reichert has been exploring the circulation of the sap in plants, and has pointed out that of the two distinct portions of sap which are found in the little vesicles of which plants are built up, but one of them is engaged in rotation, the central fluid being always stationary. The phenomena of the circulation in plants may be seen by any of our readers possessed of a good microscope, by placing under a moderately high power a semi-faded leaf of that common canal weed, the *Anacharis alsinastrum*. In France M. Chatin has been working at the anther, that little powdery seedlike body which is found at the top of the stamens of a flower. This was formerly considered to possess only two envelopes or linings; but with the aid of the microscope M. Chatin has been able to distinguish a third coat. In our own country the veteran Gulliver has been continuing his researches upon the microscopical structure of plants. Quite recently he has been examining the appearances of pollen-grains. The pollen is the fine soft powder which is discharged from the anther above mentioned, and which one sees so abundantly distributed over the inner parts of the flower in the lily. Professor Gulliver has examined the pollen-grains of a large number of plants, and he has found not only that their particles have, when magnified, a definite shape and outline, but that these are generally peculiar to each plant. This discovery is important, for it shows that by means of the microscope we may often determine the exact species of a plant by a portion of its pollen sufficient to rest upon the head of a pin.

In the study of the structure of the lower animals, the employment of the microscope is indispensable. In this branch of anatomy a good deal has been recently achieved. Two new and curious species of wheel animalcule have been discovered by Mr. Henry Davis, and described by him to the Microscopical Society. Hitherto it was thought that only one wheel animalcule (*Melicerta*) had the power of constructing a habitation for itself. Mr. Davis has shown that this opinion is not correct, since he has seen the species he has discovered arranging the minute pellets one by one, and fastening them together by means of a glutinous substance into a veritable domicile. The little animalcule appears to be provided with a microscopically bearded chin, which is employed in the process of domestic architecture. The brain of that singular animal, the cuttle-fish, has been examined under the microscope by Mr. Lockhart Clarke, and appears to be a wonderful piece of nervous complexity. It has been always considered that the cuttle-fish is the highest of the animals devoid of an inner skeleton; but Mr. Clarke's researches, though of too special a character for further notice here, show that the brain of the cuttle-fish is of a higher stamp of organization than was formerly supposed.

Silk-worm culture is not simply an interesting pursuit for the dilettanti, it is a business of as much importance to the countries in which it is followed as any of the staple manufactures. Of late years, however, a sad blight has fallen on the French silk-worms, and has materially damaged the silk-trade. To discover the cause of this was of the most vital

* The *Geological Magazine*, April.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interest, and therefore several French chemists and microscopists undertook the examination of the diseased and healthy worms. The result has been the discovery of the exciting cause of the disease. It has been found that the infected worms contained, scattered through their tissue, a number of minute bodies, probably spores or germinating particles of some low vegetable organism, and which have been termed *pebrine corpuscles*. They are of a peculiarly vibrating character, and if they happen to be present in the egg, they are sure to be found in the body of the future caterpillar. It was thought that they were gregarinida, but such a supposition is incorrect. That they are vegetable spores, which are capable of producing fermentation, and thus of decomposing the vital fluids of the silk-worm is clear, from an experiment made by M. Bechamp. M. Bechamp removed some of the fluid from a caterpillar infected with pebrine corpuscles, and placed it in a solution of sugar and water. The result was that alcoholic fermentation soon took place. Though not directly referring to microscopy, it may be mentioned that the source of these pebrine corpuscles has also been discovered by the French observer we have named who states that it is the wet or moist mulberry leaves with which the worms are fed. "He took a number of worms from good healthy eggs, and divided them into two batches. One of these he fed with mulberry leaves, and to the other he gave leaves highly charged with moisture. He found that all those of the batch fed with dried leaves passed through their metamorphoses; whilst those in the other series perished."*

There is no subject which has of late attracted more attention from savants, especially in France, than that of spontaneous generation. In its investigation the microscope has been extensively used, and, according to both advocates and opponents of the theory, has furnished very valuable evidence. Besides M. Pouchet, the great supporter of the doctrine of *heterogeny*, the theory has found a new advocate in M. Donné, who, in a recent number of the *Comptes Rendus* of the French Academy, calls attention to certain experiments made by him, and which he thinks establish beyond all question that organisms—living vegetable and animal forms—spring directly from decomposing animal matter.

* *Popular Science Review*, April, p. 237.

One of M. Donné's experiments is extremely interesting. He took a hen's egg, and having pierced it with a red-hot needle, and allowed a portion of the contents to escape, he filled the space left by the evacuated contents with distilled water. Sealing up the aperture hermetically with wax, he left the egg exposed to a temperature of from 17° to 24° of the centigrade thermometer* for about five days. He then removed the seal, and placing a drop of the egg-fluid under the microscope, he found it swarming with minute organisms termed *vibrios*. These are either animal or vegetable; science has not determined which; but they are certainly living creatures, and if they were not derived from the atmosphere, which generally contains their eggs in abundance, they must have proceeded directly from the decomposing matter of the egg. M. Donné's facts are the most difficult to refute which have yet been put forward, and go nearer to destroy our belief in Harvey's maxim, *omne vivum ex ovo*, than any which have been yet presented to us.

Adulteration is another subject concerning which the microscope provides us with useful information. It was frequently had recourse to by Dr. Hassall during the labours of the memorable *Lancet* Commission, and only the other day it was employed for a similar purpose in France. M. T. Roussin has found that almost all the French soft-soaps, which should consist of potash and the acids of fat, are extensively adulterated with starch. Starch consists of extremely fine particles of an ovoid shape, and presenting a number of concentric coats. M. Roussin suspecting the presence of adulteration in the soaps examined by him, placed a small portion in the field of a microscope, under a power of a quarter of an inch focus. He soon perceived the starch granules in very large number, and presenting their characteristic shape, wrinklings, and series of consecutive layers.†

We have already disposed of the space allotted to us in discussing the results recently achieved in the labours of microscopists. The second portion of our subject, therefore—that relating to the advance made in the invention of microscopic apparatus and appliances—we must defer to our next number.

* Equivalent to about 62° and 75° of Fahrenheit's thermometer.

† See the *Chemical News*, April 5th.

OUR BRITISH BUTTERFLIES:

Their Structure, Habits, History, and Foreign Relatives.

By Arthur Gardiner Butler, F.Z.S.

PART I.

IN a former paper we have endeavoured to show how closely some foreign butterflies resemble our own: we now propose to point out how far some allied species excel ours in beauty of form and colouration; and as it appears to us that the study of British Butterflies, with regard to their structure, habits, &c., has been but imperfectly worked out, we shall strive to do something towards the attain-

ment of a more thorough knowledge of these beautiful insects. The lovely butterfly that comes first on our lists is known to naturalists as the *Papilio Machaon* of Linnæus, but more popularly under the title of the *Swallow-tailed:* it exceeds all the other British forms in size, and, when flying near the ground, its sailing, rook-like flight gives it the opportunity of exhibiting all its beautiful and simple colours to great advantage.

Never shall we forget the day when our eyes first feasted on that glorious sight—the Swallow-tailed upon the wing. It had been a drizzling, misty morning, and even as we left home the fine sleety rain came down in fitful showers, which, contrasting with the warmth of the atmosphere, annoyed us with their prickly chillness—a thing, by the bye, well calculated to produce sneezing-fits. We did not dare to hope for butterflies, though we did occasionally come across some few stragglers of the poor hardworking honey-bee, carrying their sweet burden through the damp, heavy atmosphere; having arrived at a clover-field, we stood watching the wide expanse of purple flowers, when an object met our view, soaring aloft, then sweeping the field like some small bird of prey in search of a victim. As it approached, we could perceive that its wings were of a yellow colour; and it soon settled not many yards from our feet. One moment and it would be a captive: to open our umbrella-net, rush forwards, and swing it round, was the work of an instant. But "there is many a slip," says the old proverb—a brother's net met ours with a crash, and we perceived that the fluttering prisoner was his prize. That very morning a second specimen was beneath his net, but, in his excitement, he raised the gauzy prison, and away soared the freed insect into the now blue sky, and rapidly disappeared from sight.

Strangely enough, all the Swallow-tailed butterflies that we have seen on the wing have come across our path whilst collecting at Herne Bay, a place not mentioned in any list of localities for the insect. One year we saw seven specimens, and several others have been both seen and chased by us during subsequent visits to that place.

The genus *Papilio*, to which this species belongs, is a widely distributed and most beautiful one. Many of its forms very nearly approach the Swallow-tailed in pattern and coloration; but as, in the present series of papers, our object is not merely to point out similar forms, we have chosen, as a representative of this species, a very beautiful insect from New Grenada, which is described and figured by Mr. Hewitson, in his "Exotic Butterflies," under the name of *Papilio Dioxippus*.

The caterpillar of the Swallow-tailed is green, having each segment of the body encircled by two black bands, the hinder band with a row of six orange spots. The head is furnished with a reddish forked appendage, which, when the creature is terrified, emits a strong-scented fluid; and by this means it is said to protect itself from the attacks of those destructive parasitic insects, the ichneumon-flies.* It feeds upon wild carrot (*Daucus carota*), fennel (*Anethum fœniculum*), milk parsley (*Peucedanum palustre*), and other Umbelliferæ.

The chrysalis is bright yellowish green, slightly darker in some parts, and is generally found attached to grass stalks by a thread round the middle, and a small web at the end of the tail. When the butterfly is nearly ready to emerge, the pattern and colouring of the upper wings and body may be distinctly seen through the thin shell-like covering. The wings are then always very small and thick. At the time of transformation, the chrysalis first splits longitudinally from the head to the end of the thorax. The hairs of the back are first seen to appear through the narrow opening, and gradually the head begins to rise encumbered by its imprisoned antennæ which, in the chrysalis, lie along the edges of the wings. Then the thin envelope cracks at the sides, the under anterior portion is forced away from the upper part, the legs begin to appear two at a time, the antennæ are released and brought forward, and the long proboscis is uncoiled; the opening gradually enlarges, and the insect, bringing its legs into action, soon draws itself from its place of confinement; and, can we add, "flies away to enjoy the pleasures of sunshine and nectar." Not so; there is much to do yet ere it can attain to such aërial joys. Its wings are now small, shrivelled, thick, and heavy with moisture; therefore our butterfly runs up the nearest wall or upright stem, and, hanging its wings downwards, sits quietly for several minutes, and now those beautiful organs of locomotion begin to increase in size so rapidly, that a sharp eye may even detect their growth. If closely examined at this stage, it will be seen that the nerves, or veins of the wings, are filled with a liquid which, being forced into them, radiates through exceedingly minute nervelets over the entire surface of the wing; which, being formed of two delicate and distinct tissues, is at this time slightly swollen, balloon fashion; and thus, in about twenty minutes, the wings attain the required dimensions. When they are nearly full-grown, the insect commences to open and shut them, which prevents them from clinging together; after which it remains perfectly quiet until they are firm and ready for flight. The butterfly then commences to flutter (some moths will do this for many minutes), and, after taking a wheel in the air, as if to satisfy itself of the reality of its newly-acquired powers, it flies away to the enjoyment of life and pleasure.

The wings of the genus *Papilio* possess a more perfect set of veins than those of any other group of butterflies, and, on that account, they have been so frequently employed to explain the names of their various branches, that it would be useless for us to repeat the oft-told tale. We would therefore refer all inquiring minds to "Westwood's British

* The disagreeable odour of caterpillars is a great protection from the attacks of birds, lizards, and many other foes.

Butterflies," where they will obtain any extra information they can require. Our figure is traced from the wing itself, which we had previously denuded of the scales in the following manner :—

With a preparation of gum-lac, dissolved in spirits of wine, stick your wing down upon a piece of card. When it has thoroughly dried, which will probably be in an hour or two, dip a camel-hair pencil in a solution of gum-arabic, and work it carefully about, over the surface of the wing. This, after a short time, will remove the scales; after which wash the wing in clean water, and repeat the process for the other side. By this means you may render the wings of butterflies quite transparent, and the veins may then be clearly seen.*

The scales themselves, upon which the colouring of all butterflies and moths entirely depends, are in this species exceedingly variable in outline, as will be seen by reference to the plate, where all the forms which we have been able to detect are figured.

The legs of the Swallow-tailed are long and bristly. The two front pairs are furnished with a central pad-like appendage; the proboscis, or tongue, is long, wiry, and black; the palpi, or feelers, by means of which the tongue is partially concealed when at rest, are singularly small and curiously constructed.

The caterpillar may be found from June to August. The chrysalides can be obtained for a few pence from almost any dealer in objects of natural history. The perfect insect appears from May to August, and may be taken in fens near Cambridge, Norwich, Yaxley, Burwell, and Hornsey; Whittlesea Mere, at Pulborough, in Sussex, and at Herne Bay, in the Isle of Thanet.

* Great care is required in preparing these wings, as the substance of the alary membrane is so brittle, especially in butterflies of the family *Satyridæ*, that it is next to impossible to avoid breaking them.

EXPLANATION OF PLATE.

Fig. 1. *Papilio Machaon* (Linn).
„ 2. „ „ „ (underside).
„ 3. „ „ „ (caterpillar on food-plant).
„ 4. „ „ „ (chrysalis).
„ 5. Wings, showing the nervures.
„ 6. Head, magnified.
„ 7. Palpus, magnified.
„ 8. „ denuded of scales.
„ 9. Club of antenna, magnified.
„ 10. Tip of antenna, highly magnified.
„ 11. Proleg, magnified.
„ 12. Middle leg.
„ 13. Hind leg.
„ 14. Scales on the wings, &c.
a, prismatic or red scale.
b, *c*, *e*, yellow scales, *c* commonest form.
d, blue scale.
f, *g*, black scales; *h*, yellow.
i—*p*, black; *o*, *p*, marginal leg scales.
„ 15. *Papilio Dioxippus*, (Hewitson, New Grenada).

THE VALE OF CASHMERE.

By WILLIAM SIMPSON.

CASHMERE, like many other places, has more than one etymology. The usual idea is that it is derived from *Khush*, which means happy or satisfied; hence Cashmere is called "The Happy Valley." The Emperor Baber, in his Memoirs, gives another derivation. He says that "the hilly country of the Sinde, or Hindus, was formerly inhabited by a race of men named Kas, and he supposes that, from a corruption of the name, the country of Cashmere was so called, as being the country of the Kas, the denomination *mir* or *mere* being still united with the names of several geographical divisions, such as Jesalmeer, Ajmeer, &c." The derivation from *Khush* is that generally accepted, because to every one it seems appropriate that it should be called "The Happy Valley." It realizes many of the features which Dr. Johnson gave to the Happy Valley of Rasselas. It is enclosed like a cup between high and picturesque mountains, whose beauty is celebrated, not only through Asia, but all over the world. The soil is so fertile, that it might be called a garden; add to this garden, lakes, rivers, fountains, holy shrines, every variety of hill, many of them high in the region of eternal snow, and to all these a temperate and a delightful climate, and you have a perfect paradise upon earth. Abul Fazel, the Mahomedan historian, who wrote about three hundred years ago, describes this country. He says, "Violets, roses, narcissuses, and innumerable flowers, grow wild." "The whole of Cashmere represents a garden in perpetual spring." Well may it be said,—

> If woman can make the worst wilderness dear,
> Think, think what a heav'n she must make of Cashmere!

Among the many associations connected with this romantic and beautiful locality, it is no new one that Eden may have had its place somewhere about it. "Cush" is the Hebrew word for Ethiopia; and the Gihon, the second river of Eden, "the same is it that compasseth the whole land of Ethiopia." It could not fail to strike any one looking at the map of Cashmere, that here is a land of *Khush*, round which the Indus flows, and "compasseth" is a correct description of the geographical fact. That it is a holy place is declared by Abul Fazel: "The Hindoos regard the whole of Cashmere as holy land; forty-five places are dedicated to Siva, sixty-four to Vishnu, three to Brahma, and twenty-two to Durga, the wife of Siva. In seven hundred places the figures of snakes are carved,

which they also worship." These remains of the worship of the serpent * are very curious, and much might be made of it as an evidence; but it is not the purpose of the present article to express an opinion upon either one side or the other. These statements are quoted to show the interest which attaches to this part of the world, and they may serve to explain why the tendency of thought in our own time is to make this central region the cradle of the human family. Near to this the Hindoo places among the unapproachable heights of the Himalayas the heaven of Maha Deo; from whose throne † of gems there flows the sacred Ganges, reputed to be one of the rivers of Eden by Josephus, in which the worshipper purifies himself both bodily and spiritually, and desires that, after death, his body may be thrown into it, as into the way to heaven.

Cashmere itself is "holy land." To the north is the Hindoo Koosh. To the ear accustomed to the language of India this word *Koosh*, or *Kooshie*, requires no explanation: it is in constant use to express satisfaction or happiness. It was from this more northern direction that the Hindoo went south, with the then simple worship of the Vedas, with the Soma juice and the *Cusa* grass. The *Chas*dins, or Chaldeans, seem to have been some peculiar order of priests or Brahmins, and modern speculations point to the region of the Hindoo Koosh as the source from which they wound westward to the Euphrates. A passage from the "Mahabharat" will show what were the ideas of this early people. It is from an address by Chrishna to Arjuna:—

Hereafter, ne'er shall be the time, when one of us shall cease to be.
The soul, within its mortal frame, glides on through childhood, youth, and age,
Then, in another form renewed, renews its stated course again.
All indestructible is he that spread the living universe;
And who is he that shall destroy the work of the Indestructible?
Corruptible these bodies are, that wrap the everlasting soul—
The eternal, unimaginable soul.
For he that thinks to slay the soul, or he that thinks the soul is slain,
Are fondly both alike deceived. It is not slain—it slayeth not;
It is not born—it doth not die; past, present, future, know it not;
Ancient, eternal, and unchanged, it dies not with the dying frame.

The associations and ideas of those ancient days contrast strongly with the realities of the present. The ideal Greek of Homer and the reputed character of his modern successor are no less at variance than is the Hebrew of the Law and the Prophets with him of later times. So with the people of Hindostan; the pure religion of the Vedas appears in all its simplicity in opposition to the thirty-two million of gods, which form the Hindoo Pantheon of the present. The Pandean heroes must be contrasted with the cowardice and cruelties of the Indian mutineers.

The reputation of the people of Cashmere is not good. Their character is proverbial. The following will indicate that such is the case: "If you meet a snake, do not put it to death, but do not spare a Cashmerie." "Do not admit a Cashmerie to your friendship, or you hang a hatchet over your doorway."

"Many fowls in a house will defile it,
And many Cashmeries in a country will spoil it."

I cannot give the data of these sayings, but it is to be hoped that they are the exaggerations of prejudice. The government is very Oriental and exacting in the matter of taxes, and the people are kept very poor. When the Punjaub became British territory Cashmere formed a part of it, and it was sold to Gholab Singh. To raise the necessary amount of rupees he founded a system of taxation, which endures to the present day. The great body of the inhabitants are Mahomedan, but the Government and the Rajah are Hindoo; hence another source of objectionable laws. A Mahomedan will eat beef, but the Hindoo law makes it death to kill the sacred cow. The follower of the prophet is allowed to eat fish, but the worshipper of the thirty-two million of gods will not permit the dwellers of the water to be eaten. As the reason of this last restriction is curious and illustrative, it should be told.

The first morning after arriving at Srinugger, my boatmen brought me some fish, and on talking with them they explained that they had been fishing by means of my name; otherwise, they said that they would be put in prison: no native dare fish on his own account, but the sahibs were an exception to this law. This law turned out to be a result produced by a belief in the doctrine of the Metempsychosis. When Gholab Singh died, the Brahmins declared that his soul had transmigrated into a fish; hence the law to save the rajah in his new state of existence from being hooked and devoured. When my boatmen brought me fish again I always made a pretence of being very particular, wanted to know if they had caught the Rajah, and expressed decided objections against breakfasting off the father of the present ruler of Cashmere and Jummoo. If "cold missionary" could have been added to this transmigrated Rajah, what a choice bill of fare it would have made! This association of ideas I could not explain to my boatmen; but whenever I made inquiries about the fish, a sly smile of satisfaction appeared on their faces, indicating that they were pleased at my ridicule of such an absurd law.

The trade of the country is very much fettered by the heavy taxes. At all the passes leading from Thibet there are custom-houses, where a large duty is levied upon the *pushm*, the fine wool from which the shawls are manufactured. This wool is all brought in from the countries to the eastward, and Cashmere owes its celebrity for shawls to its being simply the outlet of this product. There is also a

* The serpents are called in the ancient language the *nagas*; in Hebrew the serpent is the *nachash*.

† "A pure river of water of life, clear as crystal, proceeding out of the throne."—Rev. xxi. 1.

duty upon the shawls when they are sent out of the country. Tea comes overland from China by Thibet, and pays a heavy duty when it enters Cashmere. It comes in large square paper packages, and from its shape it is called "brick tea." It is in great demand among the more wealthy, and if you go to inspect the stock of the shawl merchants, while you are looking over his goods, he regales you with "the cup that cheers." In preparing the tea for themselves they put spices in it, but they have found out that the "Sahib log" prefers it without these condiments, and so they prepare it accordingly. The Nautch girls are very fond of this beverage, and always refresh themselves with it during their performances. The hookah is also an indispensable necessity; but this is not peculiar to one class in India: from a queen to a coolie they all "drink" tobacco. "Drink" is the idiom by which they express the imbibing of smoke.

During my visit to the Happy Valley, Colonel Seymour and Greatrex, of the Bays, arrived, and they determined to have a Nautch on a grand scale. One of their objects was to realize, partly for my benefit, the past times of Noormahal; and to accomplish this, it was to take place in the very building in the Shalimar in which Moore places the scene of his story. At the time there was only one copy of "Lalla Rookh" known to be in Srinugger, and it was in great demand for a couple of days before the Nautch. On the afternoon of that day I found myself sailing over the Dall, or lake, with General Van Cortlandt, who was the British resident for that season in Cashmere. Moore must have read up his subject most carefully, for his description of the lake is very truthful. He describes it as being "like a garden,"

> "With the rich buds that o'er it lie,
> As if a shower of fairy wreaths
> Had fallen upon it from the sky!"

The most striking feature is the lotus; it is a large flower, with rose-coloured petals, and a large round flat leaf, which generally lies floating on the surface of the water. They were at the time in full flower, and portions of the lake were entirely covered by them, so thickly, that the water was not seen, and it looked more like a field, or, as Moore expresses it, "like a garden," than the surface of a lake. The mass of colour produced by such a number of flowers is very fine, and for several evenings at this season the sunsets were particularly gorgeous. The sky made great efforts to rival the rose-coloured lotus on the lake; and the effort was not confined to the sky, the

> "Silent pinnacles of aged snow
> Stood sunset-flush'd,"

and the lower ranges of hills came out in strong crimson. I have seldom seen more beautiful sunsets than those which I saw on the Lake of Cashmere. Our way over the lake was past the "Isle of Chenars," as Moore calls it. It derives its name from the *Chunar* tree, a number of which grow on it. The ruins of a mosque are still to be seen on the island, which has a charmed look about it, from the unnumbered lotuses surrounding it. We pulled the leaves of the lotus, and used them as umbrellas; and when we could catch one of the seed-vessels, it was hauled on board. It is like a cone, base upwards, full of seeds, which are very like green peas, not only in size, but in taste. Finding them very tempting to the palate, we continued eating as we went along. The boatmen, seeing that these seeds were liked, helped us to all they could reach. We became veritable "Lotos Eaters," and were told that we should forget our own country. The reply to this was simple. "For such a place as Cashmere who would not send their own country to oblivion?" We continued to eat this fruit of forgetfulness. There may be something somniferous in the seeds, or perhaps it might be the heat, or the locality—a beautiful lake, along which we moved among flowers "like a garden," islands, trees, hills, snowy peaks "sunset flushed." No paradise could equal it. Who cared although the whole outer world might be forgotten in such a land of beauty?

> "Let us swear an oath, and keep it with an equal mind,
> In the hollow lotos-land to live and lie reclined
> On the hills, like gods together, careless of mankind."

We had attained to "Nirwana," we had reached the final state of absorption into bliss, which is the heavenly existence of Buddhism. The Mahomedan enjoys in the celestial regions a supreme exaltation, which he calls "Kief." When the Hindoo enters Go-lok—the heaven of Vishnu—he will enjoy a beatification, which he believes in as "Moksh." But the heaven of cows could not possibly surpass the moksh of the lotos-eater on the Lake of Cashmere. And who would run the risk of that dreadful bridge Al-Sirat, when Kief can be reached without walking on the edge of a razor? Let any man become a lotos-eater on that lake, and he will cease to have any doubts about the original site of the Garden of Eden. He will never attain to the true knowledge of good and evil till he has eaten the seeds of that plant. Who could refuse to eat such fruit, so pleasant to the eyes as well as to the taste?

Moore gives the following extract from Forster descriptive of the Shalimar:—

> "One of the Delhi emperors—I believe Shah Jehan—constructed a spacious garden called the Shalimar, which is abundantly stored with fruit-trees and flowering shrubs. Some of the rivulets which intersect the plain are led into a canal at the back of the garden, and flowing through its centre, or occasionally thrown into a variety of water-works, compose the chief beauty of the Shalimar. To decorate this spot, the Mogul princes of India have displayed an equal magnificence and taste, especially Jehan Gheer, who, with the enchanting Noor Mahal, made Kashmire his usual residence during the summer months. On arches thrown over the canal are erected, at equal distances, four or five suites of apartments, each consisting of a saloon, with four rooms at the angles, where the followers of the Court attend, and the servants prepare sherbets, coffee, and the hookah. The frame of the doors of the principal saloon is composed of pieces of a stone of a black colour, streaked with yellow lines, and of a closer grain and higher polish than porphyry. They were taken, it is said, from a Hindoo temple, by one of the Mogul princes, and are esteemed of great value."

The principal building in the garden at the present day has a verandah on two of its sides, and they are constructed of a black-coloured marble, with yellowish streaks; so it is probable that they are the "pieces of stone" to which Forster alludes. In the illustration of the Nautch these architectural remains are seen; the pillars, capital, and lintels are all of this material. The building is quite surrounded with the water of the canal, and a multitude of *jets d'eau* were playing, which produced a most refreshing coolness. We bathed, and had a combination of a swim and a shower-bath among these jets at the same time. We had dinner in one of the verandahs, and by the time it was over darkness had set in, and those employed in the Nautch had got the whole place illuminated. This is done in India in a very simple and effective manner, by a lot of small cups, called *chirágs*, into which there is a wick, and some oil. These chirágs were placed all round upon the lines of stone forming the quay of the canal, and the effect, with the jets of water playing between them, was very fine. At one spot they had placed some of these lights in little niches behind an artificial waterfall, so that they were seen through the water as it fell. This had a very fairy-like look about it.

Our friends had engaged all the best and most celebrated dancing-girls in Srinugger for the occasion, and they had all arrived. Each girl has her own baji-wallahs, or musicians, which attend her—generally about three performers. These, on this night, made a very large orchestra. We sat down at one end of the verandah, and while we had coffee and cigars the Nautch commenced.

I had repeatedly seen Nautches before in various parts of India, and I had formed the usual opinion of them, that they were dull, wearisome performances; but I must declare that the display of this evening was an exception to all that I had seen. The Cashmere music, instruments, and performers, are much more like our ideas of music than what one hears in other parts of India. No doubt but this had the effect of taking away the monotony which every one complains of at such exhibitions. Add to this that the dancers had high claims to beauty; the women of Cashmere have long been celebrated. It has always been to the harems of Delhi what Circassia is to the seraglios of Constantinople. Many of the women are as white in the skin as if they had been born in Europe. "Goolee," the name of the principal performer of the evening, could boast of the roses on her cheeks. She was the Noor Mahal of the evening, and well she merited the title. I can never forget that night. On talking it over afterwards, we all confessed to have been under the same spell of enchantment. Perhaps it was the lotos-eating—or perhaps the good dinner which we had just disposed of produced the effect; perhaps it was the fairy-like effect of the place, with its fountains and lights. All was heightened by the music and the beautiful creatures moving before us. There were the associations of the scene; we had been imbibing the magic of "Lalla Rookh" on our way over the lake, and here was the very spot where, according to the story, the love-sick Noor Mahal had also been a performer, and sung

> "If there be an elysium on earth,
> It is this, it is this."

There were the houris of paradise added to make our "kief" complete and perfect. There was a delightful dreamy reality, with at the same time a feeling of abstraction about it. We had ceased to belong to the nineteenth century: we were away back at some distant period of time. Moore's story was realized before us; it was a waking, tangible dream. Had a jin or a genie appeared, no one could have thought him out of place. Had we been asked about the Arabian Nights, we would have expressed our perfect faith in the truth of the whole thousand and one stories. We were willing to believe in Ormuzed and Ahrimanes, and all their armies of angels. The Peris of Paradise were not a matter of mere faith—they were realities before us. The spell was complete, and acknowledged by the whole of our party. It is a good thing to be thus taken out of yourself—to cease to be, as it were, for the time; and I here again thank my friends for the sweet delusion of that never-to-be-forgotten night.

Dancing-girls seem to have belonged to all parts of the East, and were in existence in the most ancient times. They are the only class of women in the East who receive what may be called "education;" they have to begin when children, and are carefully trained. Every rajah keeps a number of them to entertain himself and visitors. In many parts of India they are attached to the temples, to sing to the god, and perform at the ceremonies; these girls are called "Moorlees." The Greek and Etruscan vases are familiar illustrations of dancing women at religious ceremonies. In the Bible we find that "Miriam the prophetess, the sister of Aaron, took a timbrel in her hand; and all the women went out after her with timbrels and with dances." The dance and the song always go together; the dance is a series of movements of the body, meant to express more fully the meaning of the words sung. It is suiting the action to the word. It is far more like acting, than our Western ideas of dancing. The feet are only used to jingle the bells attached to them. It would be difficult in a short space to give an idea of the songs which they sing; their character differs very much; they range from mere doggerel to the songs of Hafiz. There was a very favourite song called "Angrezzie mat balo beebee," which means "Don't speak English, Girl!" It would be difficult to explain why it was a favourite, but the same difficulty would be found to explain why many of the popular songs at home here are favourites. This particular one might rank, for poetic merit, with "Jim Crow;" and like that once celebrated melody, it could be easily altered by impromptu verses. The great favourite was "Taza ba taza," and it is really a fine song; it is by Hafiz; the ideas are good, and the words are musical. The refrain of it is an illustrative speci-

men of what seems the tendency of Oriental rhyme; the words are "Taza ba taza, nou ba nou," which means, "Fresh and fresh, new and new." The peculiarity is the repetition of the same sound, producing as it were, a rhyme within a rhyme; reminding one of that richness of effect which they produce by a repetition in their wonderful ornament, not only in architecture, but in shawls and all their gold and silver work. There is an oft-repeated verse from Hafiz, which will still further show this feature of Oriental rhyme. It is,—

"Hum jins, ba hum jins, purwàz;
Kubootre ba kubootre, bàz ba bàz."

By this repetition, every syllable seems to rhyme, and the style must be well adapted for lyric poetry. These lines may be translated as,

Kindred souls together walk:
Dove with dove, and hawk with hawk;

or, in the words of the old proverb, "Birds of a feather flock together."

SIGN-PAINTERS AND SIGNBOARDS.*

ALTHOUGH signboards, in these modern days, are very unimportant objects, time was (and that at no very distant date) when they were far otherwise. When streets were unnamed and houses unnumbered, when the majority of passers-by in even the busiest thoroughfares were unable to read, and when particular trades were grouped in colonies in particular localities, it was necessarily a desideratum to give every shop a name or token by which it could be distinguished and customers referred to it. Reading, as we have just remarked, being a scarce accomplishment, to write up the owner's name would have been of little use. Some, indeed, whose names offered the chance, advertised them by a rebus, such as the hare and bottle for Harbottle, and two cocks for Cox; a custom not uncommon in the days of the Romans, not only on signboards which were then in common use, but on the votive tablets of the dead. Others, whose names no rebus could represent, adopted the tools of their calling, or pictorial objects; and as the talents and imaginative powers of the artists were, it may be presumed, rather limited, colours were often introduced, in heraldic parlance, for a "difference." Size, quaintness of design, and costliness, were also eagerly sought after for the sake of distinction.

Of the sign-painters of the middle ages, we have little information; but about two centuries back, Harp Alley, Shoe Lane, and similar localities, appear to have been the head-quarters of these artists. Here Barlow, Craddock, and others, whose names are now forgotten like their works, had their studios, and produced some good signs, both carved and painted. A few signs, however (according to the *Spectator*), were produced by artists of a superior class.

The latter were often coach-painters, who united both branches of art. The panels of the unwieldy coaches of our ancestors in these days, as well as of the sedan-chairs then so much in use, were often a mass of costly blazonry; and when these herald-painters turned their attention to sign-painting, they generally produced something good.

Such was Clarkson, to whom Mr. J. T. Smith, the antiquary, assigns the beautiful sign of Shakspeare, which formerly hung in Little Russell Street, Drury Lane, and for which £500 were paid,—certainly a handsome price, when we remember the beggarly remuneration too often given for both artistic and literary work in those days. Such also was Catton (*obiit* 1788), who painted several good signs, particularly one of a lion, for his friend Wright, a famous coach-builder of Long Acre. This picture, after weathering many a storm, was still visible in J. T. Smith's time. A "Turk's Head," also by Catton, was long admired as a mercer's sign in Covent Garden. J. Baker (*ob.* 1771), who studied under the same master as Catton, and who was made a member of the Royal Academy at its foundation, J. Baptiste Cipriani, a Florentine coach-painter (*ob.* 1785), who also became a Royal Academician of London, S. Wale, R.A. (*ob.* 1786), who painted the celebrated Falstaff* and other signs, the principal one being a full-length of Shakspeare, about five feet high, which was executed for the door of a public-house in Little Russell Street. It did not hang long before it was taken down, in consequence of the act for removing signs and other obstructions from the London streets, and such was the change in public appreciation consequent on the new regulations, that the sign was sold for a trifle to Mason, the broker, in Lower Grosvenor Street, where it stood at his door for several years, until destroyed by the weather and rough usage. Lamb was another sign-painter of note, so also was Gwynne, originally a coach-painter, who acquired some reputation for his marine pieces. R. Dalton, Keeper of the Pictures of King George the Third, had been apprenticed to a sign and coach-painter, so also had Kirby, afterwards drawing-master to George the Fourth when Prince of Wales. Wright, the marine painter, Smirke, R.A., and many others might be also named.

Besides these, we have the "great professors," as Edwards calls them in his "Anecdotes of Painters," at the head of whom stands Hogarth, whose "Man loaded with Mischief" (a drunken wife, a monkey, and a magpie) may still be seen at 414, Oxford Street, where it has been for many years included among the fixtures in the lease of the premises. R. Wilson, R.A., painted the "Three Loggerheads" for an ale-house in North Wales, which gave its name to the village of Loggerhead, near Mold. George Morland, Ibbetson, and David Cox, executed a few works of this kind. Harlow is said to have painted a front and back view of Queen Charlotte for the New Inn, Epsom, to settle a score he had run up. The portrait was in Sir Thomas Lawrence's most courtly style, and signed in the corner T. L., Greek Street, Soho. When Lawrence heard this, he is said to have flown into a rage, and declared that if Harlow were not a scoundrel, he would have kicked him from one street's end to another, whereupon Harlow coolly remarked he trusted that, when Sir Thomas should have quite made up his mind about the matter, he would choose a short street. Herring is reported to have painted some signs—the "Flying Dutchman," Cottage Green, Camberwell, and the "White Horse," at Doncaster. Among others, Millais is said to have painted a "St. George and Dragon" for Vidler's Inn, Hayes, Kent; Horace Vernet, also, has the name of having produced more than one in his younger days.

So, also, in former times, eminent artists occasionally

* "History of Signboards." By J. Larwood and J. C. Hotten. London: Hotten, Piccadilly. 1866.

* Near the West Gate, Canterbury. The reader may remember the display of popular feeling caused by the removal of this relic a couple of years back.

condescended to these trifles. In the Museum at Basle are two paintings by Holbein, said to have been intended as a sign for a school. A Correggio in the Sutherland collection (Mule and Muleteer) is understood to have been painted for an inn sign, and a similar story is told of the "Bull" of Paul Potter* in the Museum at the Hague. Watteau painted a sign for a milliner, on the Pont Notre Dame, which was deemed worthy of being engraved. Many more examples might be given: but we must turn to the *signs* themselves.

The remains of Herculaneum and Pompeii present us with many of the signs in use among the Romans; thus, we have a goat, the sign of a dairy, a mule turning a mill, apparently that of a bakehouse; a boy receiving a castigation with a veritable birch, evidently denotes a school. Some of these were painted, but more frequently they were terra-cotta *relievos* let into the pilasters of the shop front. Another sign of which we have frequent notice in Latin writers is the Bush, whence we derive the proverb of later days—

"Good wine needs no bush."

It was usually of Ivy, a plant sacred to Bacchus. This custom was copied by our mediæval forefathers, and as late as the days of Taylor, the water-poet, a bush on a pole appears to have been one of the commonest indications of a tavern. Many examples occur in the works of Wouvermanns, and the custom is still occasionally resorted to in the backwoods of America and up the country in South Africa, where a bundle of straw or grass on a pole advertises accommodation for man and horse. In the Tudor days these erections were known as "ale poles," and appear to have been often very elaborately ornamented, as in the "ale stake" in front of the "Nag's Head in Chepe," in the prints of the entry of Mary de Medici.

The barber's pole is another mediæval sign, for both the pole and its use are figured in more than one MS. The patient who was to undergo phlebotomy had to grasp the pole to make the blood flow more freely, and as the pole was liable to be stained with blood, it was painted red. When not in use it was hung outside the door with the linen bandages round it, hence in later times it came to be painted with stripes of red and white, or blue and white. It was stated in a debate in the House of Lords, in 1797, that there was a statute then in force, requiring barbers to show a *blue* and *white* pole, and surgeons (barber surgeons) a similar pole, with a brass basin and a red flag or rag. The basin alone is still used for a barber's sign in Scotland, while in Holland the three gold balls seem a favourite device with the perruquier.

The three balls, now gilt, but originally blue, were a part of the arms of the Medici family, from whose states came most of the earliest dealers in pawns. Pawnbrokers appear, however, occasionally to have used other devices. Balls of various colours were used by dealers in medicine, fortune-tellers, and quack doctors, possibly from their resemblance to the divining crystals to which such magic properties were attributed. At night they used lamps of the same colour as the balls on their signs, whence most probably the red lamps of our chemists' shops. The true signs, however, were either suspended from an iron bar, or hoop† fixed to the front of a shop, or to a post or obelisk before it, or depended from a small triumphal arch spanning the approach. The ironwork in these cases was often very elaborate.

Coats of arms, crests, and badges, were used at an early period as signs. One reason for this no doubt was that, in the Middle Ages, the houses of the nobility both in town and country, when the family was absent, were used as hostelries for travellers. The family arms always hung in front of the house, and the most conspicuous object in the arms probably gave a name to the establishment among travellers innocent of heraldic lore, with whom a lion gules or azure would soon become the "Red or Blue Lion." We have examples of such a practice in old signs like the "Talbot" (the crest of the Talbots), the "Bear and Ragged Staff" (that of the Warwick family), and in family arms, as the "Beaufort Arms," the "Courtenay Arms," &c.

Sometimes the signs had a party significance. Thus, the "Red Lion" was a favourite badge of the Lancastrian faction, being the arms of Constance, the daughter of Pedro the Cruel, King of Castile and Leon, and wife of Henry IV. Hence its frequent occurrence in English coat-armour, hence perhaps also its popularity as a sign. In some cases, as our authors suggest, when combined with the Castle, it may have had no reference to heraldry, but have been a copy of the brand of Castile and Leon on the wine-casks, and used as an indication that Spanish wine was "to be had within."

The "White Hart," the "Falcon," the "Cannon," and many kinds of Lions, were all in their day royal badges; so were the "Swan,"* the "Greyhound," and the "Antelope." So also was the "Welsh Dragon," which seems to have been a favourite sign with apothecaries, possibly from its being the alchemistical sign for the drug mercury. The "Caduceus," under the name of the "Brazen Serpent," was a favourite sign with the booksellers of the sixteenth century, not only in England, but also in France and Germany, and thus often occurs as a colophon in old books. Crosses† were also in common use, probably from these emblems being the distinguishing badges of different knightly orders; thus, the Knights of St. John wore white crosses, those of the knights of St. Lazare were green, those of the Templars red, those of the Teutonic knights black.

Religious signs were very common in the fifteenth and sixteenth centuries. The "Virgin," which may still be seen at Ebury Hill, near Worcester, was a favourite sign. Taillemant de Reau speaks of a miraculous tavern-sign of the Madonna in the Rue Notre Dame, in Paris, which was seen to shed tears, and which was removed by order of the archbishop of Paris. Others of these old signs appear to *modern* notions to trench on the blasphemous, though examples of this kind may still be met with abroad. The early booksellers, whose trade lay chiefly in religious books, delighted in figures of saints; but at the Reformation, when the Bible became in great request, *it* appears to have become the popular symbol of the book trade. Adam and Eve, the Deluge, Old Pharaoh, Abraham's Offering, Balaam's Ass, and many other scriptural subjects occur as signs for various places in the sixteenth and seventeenth centuries, having probably been suggested by the old mysteries and miracle plays, which by the way were often reproduced in shows long after the Reformation. The "Salutation," so common—why we know not—in seaport towns, originally represented the angel saluting the Virgin Mary. It was changed by the Puritans into the "Soldier and Citizen." "Heaven" was a place of entertainment near Westminster Hall, on the site of the present Committee-rooms of the House of Commons. Pepys mentions in his diary having dined there in the winter of 1660. "Paradise" was another house in the same neighbourhood; and "Hell" and "Purgatory" were two underground passages or cellars.

The well-known sign of the "Man in the Moon" is supposed to have originated in a kind of semi-religious legend, and therefore requires a brief notice here. The idea is said to have been suggested by the incidents given in the Book of Numbers, xv. 32 *et seq.* Not content with having stoned the man, the legend also transported him to the moon. Other writers imagine that the legend refers to Cain, who was asserted by popular superstition to have been transferred to the moon. Whoever he may be supposed to represent, the man in the moon with his bundle of thorns, his lantern, and accompanying dog, has not only had a fair share of signboard popularity, but has been celebrated in innumerable songs.

* Intended for a butcher's shop.

† Hence such signs as the "George (Saint) and Hoop," the "Mitre and Hoop," the "Cock and Hoop," "Hen and Hoop," &c., all of which we find mentioned in the fifteenth century.

* The Swan was used as an emblem of Luther, hence its occurrence in place of a vane on the steeples of Lutheran churches.

† Both the cross and the chequers were Roman trade-signs, the latter apparently for gambling-houses.

We must, however, now pass on to humorous and miscellaneous signs, selecting them at random from the curious and entertaining volume before us, which, though containing notices of nearly 2,000 signs, is still confessedly incomplete.

The "Pig and Whistle" was an old and favourite one. It is figured in the Harleian MSS. (fifteenth century), and still lingers at Chester, Macclesfield, Coventry, and other old towns. In one of the stalls of Winchester Cathedral, is a carving of a sow sitting on her haunches blowing a whistle while another plays a fiddle, close by a small porker is attentively listening to the maternal performance. A good deal of learning has been displayed in endeavouring to account for this device, some writers supposing the name to be a corruption of the "Pix and Housel," or of the "Pig and Wassail." Others claim for it a Dano-Saxon origin, "Pige-Washael," "Our Lady's Salutation." The Scotch also assert it to be their own, pig being a pot and whistle a name for small change. Possibly, as Mr. Hotten observes, it was after all but a freak of some mediæval artist, a remark which may apply equally well to the old Hampshire sign, the "Cat and Fiddle." Animals in boots appear to have been originally used by shoemakers, in Holland, where they are still common as signs. One may be seen on a tavern in Rotterdam with the following legend:—

"In den gelaars den ezel zeer kloek.
Verkoopt men tobak, brandewyn, en krapkoek."

"This is the valiant jackass in boots.
Here sell we tobacco, brandy, and gingerbread."

There is a Puss in boots near Dudley, and a Goat in boots in Fulham Road, Chelsea.

The "Good Woman," represented by a lady minus her head, was a figure much used by oilmen,* and is said to have originally depicted some decapitated female martyr, though since construed into a satire on the sex. The "Honest Lawyer," a gentleman of the long robe, in a similar predicament, is also recorded as existing. "Nobody" was the sign of Trundell a well-known ballad-printer. "No-place" may still be found in Plymouth, "No-where" on a public-house in Norwich, and "Why-not" on one at Essington, in Staffordshire. The "Hole in the Wall," so common in military towns, was probably a snug recess in the town walls, devoted to suttling purposes. It is also said to have been a round hole in the wall of the debtors' prison in the Fleet, through which they were permitted to receive alms, broken victuals, &c.* The "Toby Philpot," the authors explain by the following extract from the *Gentleman's Magazine*, December, 1810, which we commend to the notice of lecturers on "total abstinence."

"Died at Ewes farmhouse, Yorkshire, Mr. Paul Parnell, farmer, grazier, and maltster, aged 76; who during his lifetime drunk out of one silver pint mug upwards of £2,000 sterling worth of Yorkshire Stingo; being remarkably attached to Stingo, home-brewed, of the best quality. The calculation is taken at twopence the cupful. He was the *bon-vivant* whom O'Keefe celebrated in one of his Bacchanalian songs, under the name of 'Toby Philpot.'"

Those of our readers who are acquainted with the rural parts of the Isle of Wight may have noticed that the "Bugle" is there a common sign with wayside inns, and often associated with the figure of a *Bull*. This Mr. Hotten tells us is traceable to the old English word *Bugle*, applied to the wild cattle at one time plentiful in many parts of our Island. The letters of the alphabet from A to Z were, forty years back, the sign of a tavern known as the A B C, in Clare Market. "Great A" occurs as an inn sign in Norfolk. "Little A" was a tobacconist's in Leadenhall Street; Z, the initial of Zinzibar (ginger), was a grocer's sign. We have also the "Sneezing Cat," the "Flying Monkey," the "Ass in a Bandbox" (at Nidd, near Knaresborough), the "Hunchbacked Cats" (at Lille), the "Gaping Goose" at Leeds, the "Loving Lamb" at Dudley, the "Cow and Snuffers" at Llandaff, "Old Careless" at Stapleford, "Slow and Easy" at Lostock, "Spite Hall" at Brandon, "Old No" at Sheffield, the "Monster," the "World's End," the "World Upside Down," the "Finish," and many more. We must, however, ourselves make a finish in commending to the reader's notice the lines in Gay's "Trivia," which are still applicable to many an old-fashioned town, both at home and abroad,—

"Mark well the signs, for signs remain
Like trusty landmarks to the walking train."

* Possibly as having some reference to the Parable of the wise and foolish virgins, a favourite subject in the old "mysteries."

* The "Hole in the Wall" is the familiar name for the refreshment room in the House of Representatives, at Washington.

SOCIETY OF BRITISH ARTISTS, SUFFOLK STREET.

A WRITER in one of the daily journals has given great offence to the artists who exhibit in this institution; and they have reason to be offended. It is not the province of a critic in art to go at his work like a Red Indian, and scalp the feelings of the men whose works he chooses to attack. Criticism may be healthy enough without violating the laws of good breeding between man and man. It is an old saying, that "all the trees in the forest do not grow alike;" neither are all exhibitions of equal merit. There is only one Royal Academy; and the Exhibition in Suffolk Street does not pretend to be the royal favourite of Trafalgar Square. Still, the place contains some good works, and bears evidence of the labour of honest men; and the fact that such men are endeavouring to live by those labours, ought to disarm such tomahawk attacks as that to which allusion has been made.

It must be confessed that our ideas of the purpose and object of Art are a little uncertain at the present day. The principles of Art are quite as loose and unsettled as those relating to the doctrines and rites of the Church, or to the constitution of a Reform Bill. It may be possible that religion, politics, and art are not unconnected; Ruskin has long held that such is the case, and it must be confessed that there is much to favour such an idea. It is this want of first principles which makes art-criticism so vague and unsatisfactory. Painters paint from the most opposite sets of ideas, and critics praise or condemn from equally contradictory points of view. Even Ruskin complains, and does so with a tendency to wailing, that he cannot restore this harmony of thought, which he considers so necessary for the full development of painting and architecture. When a Ruskin fails, who will attempt to produce cosmos from the chaos of our present ideas on art? If artists are to live, they must paint; and if artists paint, critics must give their opinions. The simple conclusion is in favour of forbearance. Where there is no infallible canon which we all acknowledge, let none of us individually dogmatize; and above all remember, that the painter's work is the bread-and-butter of himself and his children.

Having no universal church of art whose doctrines override everything else, we may be said to derive all the advantages which belongs to dissent, in the shape of almost infinite variety. Every mind seeks out in Nature its own shrine, and there presents through the labour of the mind and the hand the devotion of the heart. And our exhibitions are all illustrations of this diversity of feeling and

thought. The collection in Suffolk Street is not an exception to this rule. Every shade of thought is represented. Suppose that we notice the pictures with some relation to the various sets of ideas and modes of thinking which are prevalent.

The Allegorical has long been, and always will be, a welcome style. The countrymen of John Bunyan cannot object to that mode of art; and in the present exhibition there is a very clever water-colour—not much more than a sketch—of "A Wayfaring Man" (1029), by Miss F. Claxton; the wayfaring man suggesting the universal man, who is a wayfarer here below on this earth. Of the Ideal there are some examples; may witches be included under this head? If so, Mr. M'Culloch's "Tam O'Shanter" (116) might be noticed; the whirl and motion of that exciting moment when Meg passed the "Key-stone o' the Brig," is well conceived and effectively rendered. Historical subjects are plentiful and various. Mr. Heaphy's picture of General Fairfax and his Daughter (238) shows some good work; the principal figures are very good, and the foreground incident of the hen and her chicks, one of which is passing over the edge of the general's sword, suggests the position of danger which the principal figure is placed in at the moment. It is not easy to repeat the story of a picture by the subordinate accessories. A very little more finish and power in this picture would give it a title to high place. "The Beau's Stratagem," by E. C. Barnes (115), from its treatment belongs rather to the historical class than to what the French call "Sujets de genre." It is well painted and well done in every way, its fault being that it is a little too theatrical; Though much more satisfactory is his small picture to the lines from Tennyson (382),

> "Break, break, break,
> On thy cold grey stones, O Sea!"

This is really quite an original picture, all painted in greys with the exception of the shawl, which might be called only a deeper grey. The solitary figure standing by that simple beach raises an interest which is never felt in the larger pictures; one does not even see the lady's face, but *the desire to see it* is produced, and he would be a dull spectator who would only desire to see the face. A walk along a beach like that must be by one who has something to engage her thoughts, and to see the heart and to know its utterance is the sum of the interest produced by this strangely fascinating picture. The painting is simple and broad; the brush has left the colour thick and pulpy. To the right of this picture is a very fine one, in which grey is again the predominating tone (383), by Haynes King. So far as painting goes it might be said to equal the other, but the single figure excites little or no interest. Miss Beales gives a picture of this same class in water-colour (918), but if it had been a little less pre-Raphaelite in its treatment it would have been more effective. "Giorgione" (948), by J. D. Linton, is allied to this type of subject. One feels an objection to this picture because it does not belong to the English school of water-colours; the juicy quality of a free wash of colours is absent,—one has to look close, to see if it is not done with crayons; still, one must not overlook the fact that it is a very fine work, carefully and very beautifully done: the faces are masterpieces of delicate touching. There is no very distinct line between this class of picture and that of ordinary life subjects; the historical, sentimental, and everyday scenes, or rustic pictures, melt into one another, no line can be drawn; so the latter class may be considered as following to those just noticed. Mr. Hemsley's "Village Postman" (86) tells its story particularly well. Although rather a hackneyed subject, the picture is not so in the slightest degree. The action and expression of the young lady tells what she is expecting. Papa has got his letters, and is already deep into them; the relationship is indicated by the dog, who runs back to see what detains his mistress. The postman is a very good figure, and has an expressive face; a little more flesh-colour in the face, and a little more careful painting here and there, —painting which Mr. Hemsley evidently could do,—and this would be a first-class work. The critic is hard to please; one picture wants flesh-colour and careful painting, and the next has a little too much again of both these qualities: the middle course of perfection, particularly in art, is hard to attain. These remarks indicate the criticism Mr. Roberts's "Tedious Sermon" (33) is liable to. It might be a little less distinct, and the faces not so much cut out as they appear; still, this is a good performance, full of good honest work and study. The pictures by the Brothers Burr are so very much alike, in almost every quality, that what applies to one applies to both. They all indicate a masterly power and vigour; the touch is put on with that ease, indicating an experience of hand and correctness of eye, which is always so delightful to the lover of art. "The Rehearsal" (114), by J. C. Monro, although rough in its execution, contains many good points. "Never had no Larning" (430), by Mr. Hayllar, is an out-of-the-way subject to pick up, and a very good one it is; it is not every man that can catch a new idea to paint. The picture is very well rendered. A word of notice is due to Mr. Dowling, who is, so to speak, a stranger come among us, and gives "An Incident in the Siege of Gloucester" (566). "The Holiday" (558), by Miss Walker, is a pleasant subject, and the work upon it will stand a careful looking into. Over the fireplace in the large room there are a number of very beautiful little bits of painting; they are too numerous to particularize.

Suffolk Street has always been strong in landscape, and Mr. Pyne is what might be termed the Turner of the place. This eminent artist has generally been ranked next to Turner among British landscape painters, and some very generous marks of appeciation by the great master are recorded as having been given to his all-but rival. Landscape art has the two very opposite modes of treatment—the realistic and the ideal. Turner and Pyne have practised both. The one is the foundation of the other. In both Turner has been the greatest man; but in the production of light, and of light grey aërial effects, Pyne has always ranked next to the great master of English landscape painting. This power is still visible in the pictures which Mr. Pyne exhibits, but he is not what he used to be. Perhaps this is the result of accident; if so, all lovers of our own school of landscape will be glad. "Florence from a Villa on the Arno" (17) comes the nearest to the old style of this artist: there is light, delicacy, and power. Detail in the distance is not lost by atmospherical effect—it is a picture in which you can mentally walk from the foreground into the middle distance, and on to the hills beyond. Of the realistic school,—which almost all our landscape men are now, more or less—Mr. E. Pettitt's Avalanche (417) is a good example, full of careful study from nature: much of the detail is lost by being hung so high; but high as it is, one can see the minute finish of the middle distance and foreground, and we may take it for granted that the distance is equally so. A Steam Tug towing a vessel into Howth Harbour (424), by E. Hayes, is a very fine picture, the effect in the sky is glowing and expressive of atmosphere. On the Lledr (193), by J. Syer; the stream of light on the hill-side is finely felt and rendered; this artist has a fine, free touch, which is seen to great advantage in the rocks and water. Lime Burning (574), by G. Cole, is very effective, the blaze of light bursting out on the darkness, and its play upon the figures is most cleverly managed, and the result is a good picture, which has the additional merit of being out of the common. In the water colours, Mr. Soper has a masterly view of Brighton from the Dyke Road (984). The greys in this picture form its great charm, but the drawing and composition is of high merit. A Highland Raid (984), by A. C. Gow, has good action and clever painting. The Nosegay (973), by A. H. Marsh, indicates the true feeling of an artist, the hollyhocks and flowers are finely touched. Coming Clouds (1012), by W. F. Stocks, is a bit of poetic treatment.

Our space comes to an end sooner than our interest in the Exhibition, and we regret, therefore, that many an honest work, perhaps no less worthy than those we have mentioned, must perforce pass unnoticed.

MUSIC AT HOME.

THE gentle Orpheus, emancipated from his winter trance, once more strikes the operatic lyre, and declares the musical season in full progress. Philharmonics, "old" and "new;" Sacred Harmonic and Choral Societies, and all miscellaneous entertainments of sweet sounds, are very well in their way; but the "season," in the strictly conservative sense of the word, commences on the opening night at the Royal Italian Opera, or Her Majesty's Theatre, as the case may be. That all-important signal, the preliminary tap of the *bâton* on the foot-lamps, was given by Mr. Costa on Tuesday, April 2nd. Mr. Gye certainly began well with *Norma* for the inaugural opera, and Madame Maria Vilda as the Priestess. Of all the new comers in 1866, she alone made a strong impression, a result due to her superb voice and faultless singing, for in the matter of acting she was considerably below the standard. The clear, ringing, silvery voice, and the wonderfully facile execution, are here again; but the dramatic Norma is almost as far off as before. *Lucrezia Borgia* we may expect to see repeated, and the particular ordeal for the artist to pass through will be Leonora, in Beethoven's *Fidelio*, an opera included in Mr. Gye's scheme for 1867. Strange to say, Madame Vilda had no bouquets cast at her sandalled feet; and as those compliments are now so indiscriminately bestowed, she did not, perhaps, regret their absence. Two of the five gentlemen singers engaged for 1867 made their *débuts* in *Faust*, performed on the 4th. M. Petit, the Mephistopheles of the *Lyrique*, sings and acts with true French determination. He absolutely writhes before the cross-hilted swords which upset his demoniac composure; and he adopts all those attitudes expressive of defiance, bravado, and sarcastic contemplation, which are theatrically associated with the scarlet-clad emissary from the lower world. He plays with the transformed philosopher as the sleekest of cats does with a mouse; plausibly attentive to the ancient Martha, provokingly condescending to the lachrymose Siebel; and he defies the entire crowd in the market-place with contemptuous energy. M. Petit may be accused of exaggeration, but *n'importe*, M. Petit is picturesque, and able to thoroughly realize the meaning of the "Dio dell' or," and the serenade "La che fai l'addormentata." Signor Graziani's, or Mr. Santley's still fresher laurels, will not pale before the genius of Signor Guadagnini, who makes but a languid Valentino. *L'Africaine* introduced Signor Cotogni, another tuneful stranger, who has latterly been brought into excessive prominence by the success-mongers of Paris. He is, *pro tem.*, the swarthy Nelusko, who, with the adored and adorable Selika, sinks into the long sleep under the fatal Mancanilla tree. The manager has secured the privilege of bringing out in London M. Gounod's *Romeo et Juliette*, and Signor Verdi's *Don Carlos*. Mademoiselle Adelina Patti is to sing the "gentle Capulet's" sorrows; and Mademoiselle Pauline Lucca is to be the Elizabetta di Valois of M. Gounod. The exquisitely poetical garden scene in *Faust* has, of course, led us to expect great things of M. Gounod when he tunes his lyre to the strongest of all human passions—love. All remark upon the forthcoming opera would be mere speculation, but upon one point the thousand tongues of rumour seem unanimous, and that is, the omission of the balcony as designed by that wonderful dramatic architect who rests peacefully at Stratford-upon-Avon. There will be a Nurse, but to that "ancient lady," as Mercutio calls her, young Juliet will not cry "Anon, anon," and steal back to the balcony under which Romeo waits to speak his last good night. Signor Felice Romani, Bellini's librettist for *I Capuletti ed i Montecchi*, ignores William Shakespeare, and makes the lovers meet in the "marble halls" of the period. Musical curiosity is thoroughly awakened as regards Verdi's *Don Carlos*, and there is every opportunity for the composer to make another strong and enduring impression upon the English public.

The laws of human nature and the spirit of commerce decree that "two of a trade" shall seldom agree upon all points, but upon one Messrs. Mapleson and Gye are in sweet accord; they both predict that crowds of foreigners will cross the Channel, and tarry awhile in murky London. We certainly manage International exhibitions better than they do in France, little as we were disposed to admit the fact in 1862; and it may presently appear to the enlightened Hottentot, the Lapland connoiseur, the musical Maori, and other intelligent and unprejudiced foreigners "from all parts of the globe," that we are not behind the Gauls in the organization of our Italian Operas. Mr. Mapleson prints his voluminous prospectus in blue ink, and the blue-veined aristocratic spirit flashes through the document from end to end. Her Majesty's, once the "King's," Theatre, "instead of copying, still leads the way," says Manager Mapleson, therefore must a grateful world bow down before the Druidical establishment in the Haymarket, and look upon the stuccoed temple of Bow Street as nothing more than a musical mushroom. Like another "herald Mercury on a heaven-kissing hill," or like the bird of *la belle France* in full crow, may the faithful (in their mind's eye) perceive the manager of the "old house" revolving on its gigantic ventilator, and proclaiming to the four winds of heaven the services to civilization effected within the walls beneath. Chignoned beauties in the drawing-rooms of Belgravia the blest, and of South Belgravia, *née* Pimlico, will elevate their pencilled eyebrows when they read, in the document referred to, of George Frederic Handel's Italian operas having been given in the old theatre, burnt down in 1788; and will be equally surprised to find, that Rossini, as conductor of his opera *Zelmira*, held the *bâton* over the wife of his bosom while she played the leading part. Mr. Mapleson enumerates the composers and singers who have made or increased their reputation at Her Majesty's, and dwells, with pardonable pride, upon the fact of that fascinating creation, the Ballet, having been cradled in the old house. Candidly speaking, Mr. Lumley's bold successor, has striven hard and conscientiously in behalf of high art, and certainly has glorious traditions to fall back upon. Verdi's *I Lombardi*, near akin to a novelty after a sleep of fifteen years, is the opera for the first night, April 27th; and the announcement of *La Forza del Destino* is evidently intended as a set-off against the attraction of *Don Carlos* at the other house. Spontini's *La Vestale* is to continue the classic chain already commenced by *Medea* and *Iphigenia*. A young Swedish soprano, Mademoiselle Christine Nilsson, with a brilliant Parisian reputation, will try on the mantle of Jenny Lind here in London. With Mademoiselle Enequist, too, as a concert vocalist, the northern regions will not be badly represented.

A serious loss has fallen upon the musical world in the death of Alfred Mellon, at a comparatively early age. No orchestral conductor in this country, or elsewhere, had a more complete and intimate knowledge of all the great scores; and no man of the time was his superior in that indescribable tact by which large orchestras are held together, and full justice is done to the noblest compositions of the old masters. As a composer, Alfred Mellon was but little known; but as a really practical man, thoroughly versed in every detail of his profession, his name was a "household word." He was popular in every sense of the term, not only with the valse-loving public of the promenade concerts, but with amateurs of far more cultivated taste. With Alfred Mellon at the head of some most important societies, it was felt that we had a countryman as well, if not much better, able to conduct classical works than many foreigners whose names might be quoted. He worked long and perseveringly for the high position he was enjoying at the time of his death; and it will be long before the whole of the void he left will be adequately filled. He studied at Stuttgardt, under one of the strictest but best of masters, Herr Molique; and it is not perhaps generally known, that in his younger days he

played several operatic parts at the Birmingham theatre,—among them were Figaro, and that nondescript travelling nobleman of Bellini's *La Sonnambula*, the Count. The last concert he conducted was that of the Musical Society of London on the 20th of March, and the concluding item of the programme was the late Vincent Wallace's overture to *Maritana*. Precisely a week afterwards he died, and on the following Tuesday hundreds of musicians, literary men, and actors bared their heads as they stood by his grave in the Brompton Cemetery, and listened to the choristers singing funeral anthems.

The old Philharmonic Society has no longer the assistance of Professor Sterndale Bennett as conductor. At the first concert of the season, on March 11th, Mr. W. G. Cusins passed through the ordeal satisfactorily, and that, too, in the face of reasonable prejudice. The Philharmonic Concerts have hitherto been conducted by men known through their works, and it was unquestionably a great surprise to find such a young and comparatively untried man at the head of what is generally looked upon as the chief musical society of the metropolis. Every succeeding concert has apparently demonstrated that the choice of the Philharmonic powers has been judicious, and Mr. Cusins is to be congratulated on a piece of good fortune that seldom happens to so young a man.

Mr. Manns of the Crystal Palace has broken the ice in London, and, it is to be hoped, will frequently take up his proper position on the metropolitan platforms. On March 28th, he brought the now famous Saturday Concert Band to St. James's Hall, at the bidding of Mr. Arthur Chappell. The concert was chiefly remarkable from a faultless performance of Bach's Triple Concerto, for pianoforte, violin, and violoncello, by Mr. Charles Hallé, Herr Joachim, and Signor Piatti.

The Sacred Harmonic Society is in full and vigorous action, under Mr. Costa's direction. Mr. Benedict conducted his own "Legend of St. Cecilia," and has now witnessed its triumph in London as well as at Norwich and Liverpool.

The "Monday Popular" season closed on the 8th, and this final concert was signalized by a magnificent performance of Bach's Concerto in D Minor, for three pianofortes, entrusted to Madame Schumann, Madame Arabella Goddard, and Mr. Charles Hallé. The Winter Concerts at the Crystal Palace are stopped for the season. At the twenty-third of the unequalled series, two movements from an unfinished symphony in B Minor, by Schubert, were played for the first time in England, and no orchestra was ever engaged upon more exquisitely melodious and beautiful music. For most of our knowledge of Schubert we have to thank Mr. Manns, who certainly never did a greater service to pure art than in bringing these two "things of beauty" from a cruel obscurity into the strongest light. The "Grand Opera" Concerts are at hand, but for the partial consolation of those who feel severely the cessation of symphonies and great instrumental works, there are the newly organized Wednesday Concerts in the music room, where good things are played by the ordinary band of the company, and where it is intended that young soloists, both vocal and instrumental, shall constantly be presented to the public.

ANTICIPATIONS OF THE ROYAL ACADEMY.

IN our last, we intimated respecting the health of John Phillip, what all his friends had too fondly hoped to be true, that he was out of all danger, and so far on the way to health again, as to be at work on his Academy pictures. But before our words were published death had, in a manner, rendered them untrue; for he died on the 27th of February. A day or two before the sad event he had called upon his friend Mr. Frith, and, while in the studio of the latter, was attacked by paralysis; the stroke was so heavy as to render recovery hopeless from the first. John Phillip is now known by his celebrated pictures of Spanish subjects, so much so that he was called "Spanish Phillip." His *Chat round the Brasero* was exhibited last year; the *Young Murillo* was exhibited in 1865, and *La Gloria* in 1864. These were his very finest works, showing that the man was, as an artist, in his prime. It was intended to have sent two of the pictures which he had been at work upon to the Royal Academy, but this was found impracticable; so one or two other works not exhibited before will be sent. One of his last works was a portrait of Colonel Crealock: this he was so pleased with himself that he sent it as one of his contributions to the Paris Exhibition. Mr. Frith's great picture of this year is already historical. It was while consulting about its merits, and while giving that brotherly advice and criticism which even such masters of the brush are used to give and take, that the attack first seized Phillip. A week afterwards he was no more.

Frith's picture represents Evelyn, who describes in his diary that he visited Whitehall, and was amazed at the scene at court, and that *a week afterwards the king was dead*. Evelyn has entered, accompanied by two friends, one a man in the middle time of life, and the other younger. The day is Sunday, and before them is a picture of one of the worst periods, in point of morals, which the court of this country ever presented. Gambling is going on; the king is surrounded by the celebrated beauties of his time—the duchess of Portsmouth, and the Italian cardinal's daughter being most prominent—while some French musicians are playing and singing. The number of figures is very great, and after the eye has wandered about, admiring not only the beauty of the colour, drawing, and touch, but at the same time the beauty of the women, and the bright dresses of that period, it falls upon a carpet littered over by a number of dogs of the "King Charles" breed. Some of them are lapping milk from a silver dish, a number of very small pups are attempting to use their legs, which are yet feeble,—they have not got over the nine days which open the canine eyes. One of these blind pups has a prominence evidently meant to satirize the moral blindness of the monarch, whose name he bears. The portrait of the king is beautifully painted; but perhaps the most telling point is Evelyn, who stands gazing at the scene, evidently impressed with deep emotion.

Elmore's picture will illustrate the passage in Luke,—"That which ye have spoken in the ear in closets shall be proclaimed on the housetops." It is still a custom in the East for the women to gather on the tops of the houses, where all the scandal of the place is retailed; and when any one has got a *bonne bouche* of this kind, the hands are clapped as a signal for the other gossips to come and hear those personalities which human nature everywhere seems to delight in. As this is a picture which illustrates a scriptural text and a characteristic of the East, Mr. Elmore has not limited himself to any particular locality or period of costume. It is the East, and that is enough. The view of the housetops, all white and shining, is something quite new, and most beautifully managed. Mr. Elmore's power of painting the figure, particularly the female face, is such that it requires no laudation from us.

Mr. O'Neil's picture of the way Titian spent a leisure hour, is a very happily conceived subject. He is in a barge with some friends—ladies and gentlemen—and in the distance may be seen the well-known features of Venice, which point out the locality of the scene.

The other picture, an incident in the life of Luther, represents him as a monk, and a very young man; so that

we have not the fully developed face which we are familiar with as that of the great reformer. Under the ecstacy of his devotions, he is reported to have swooned; on trying to get to his assistance, it was found that the door was locked; so that force had to be used, and the monk who came to his assistance, knowing Luther's love of music, called in the chorister boys, and made them sing a favourite chant, which had an almost miraculous effect in restoring consciousness. This is the point taken for the picture, and it has been most admirably and honestly worked out.

Mr. Faed has again been distilling sentiment out of the every-day life of the humbler spheres of society; and with his usual success. When hung in the Royal Academy, few will pass the figure of the tall blind man without a touch of sympathy. What the fisherman and his wife and children evidently feel, the spectator of the picture is also, by the artist's power, made to feel. Such a result is a high achievement of art.

Mr. E. M. Ward has a picture of *Juliet and the Friar*; this with his *Amy Robsart* of last year would indicate that he has made a change in his class of subjects. It is right that a lady should select heroines for her pictures, and Mrs. Ward has selected this year Joan of Arc. Creswick will have a number of pictures. Ansdell has a very large canvas, the subject of which is "Shipwrecked Friends," the friends being a sailor and a handsome Newfoundland dog; there are, in this picture, some sea-gulls very finely rendered, which will delight all lovers of the deep. He will also have three small Spanish and Scottish subjects. Millais has a picture of *Jephtha's Daughter*, the fine qualities of which are much talked about. Mr. Maclise will have two subjects from Shakespeare, scenes from Othello and Richard the Second. Mr. Goodall sends a subject picture of Rebekah, and a figure—life-size—of Rachel. Mr. Horsley's principal picture will be "The Duenna and her Cares." Mr. Cooke vibrates as usual between Venice and Dutchland. Mr. Nicol finds a vent for his Irishman this season at a Railway Station. Mr. Calderon has sent a large picture called "Home after Victory," from the times of the civil war. Mr. Yeames also sends a large contribution called "The Dawn of the Reformation." Mr. Armitage has two pictures. Mr. Pettie has a subject called "Treason," and Mr. Watts life-sized picture of Eve. The President sends full-length portraits of the Duchess of Sutherland and Lord Stanley.

Rumour has it that the coming exhibition will be more than usually attractive. There are a great many works, not only of promise, but of ripe fulfilment, by the men whose number is too large to be included in the body of the Academy.

The hanging committee for this year is composed of Cope, Lewis, and Richmond. As it is generally supposed that the "hanging committee" perform the whole of the onerous duty of selection, as well as hanging, it may be information to state that such is not the case. There is a "council" of eight, with the president of the Academy as chairman; and all the works are submitted to them. They divide the pictures into three classes, "Accepted," "Doubtful," and "Rejected," and the initial letters of these potent words are chalked on the back of each. The hanging committee then commence their labours, and their function is the placing of each picture upon the walls. The council meet a second time to inspect the exhibition, and they have the power to affirm or to change the positions allotted by the hanging committee; the "Doubtful" class being held as a reserve to fill up space or to substitute in case of need for subjects not acceptable to the final tribunal.

MICHELET'S "L'OISEAU."*

SHOPS have their memories, as well as the woods and fields of our youth; from the humble village sweet-shop to the pompous undertaker's. Few who have had any dealings with the latter can ever pass his door without a shudder. But the memories connected with many other shops are of a more mixed character. A hard-faced man will sometimes halt at a toy-shop, not to purchase, nor yet to recall his own days of rocking-horses, but to stare at some sixpenny doll with a look that must puzzle the young woman at the counter. Memories, in short, are seldom gay. We have just brought a fit of the dumps upon ourselves, by recalling our first pleasant visits to Messrs. Hachette. We have to reckon the time back by births and deaths; and it seems strange that it should only be seven or eight years ago. We were then attracted to the window, no doubt, by the powerful Dantesques of Gustave Doré. But what enticed us up to the counter was a simpler picture book, a tale about the mishaps of a little girl (*Malheurs de Sophie*), by the Comtesse de Ségur. It was a good florin's worth, and helped us to make French amusing to a young scholar. Our nursery soon became stocked with the rose-coloured library (*Bibliothèque rose*), and a volume of the Children's Week (*La Semaine des Enfants*) twice made a happy New Year's gift. The books are still on our shelves, not without their memories; and, before we began to offer a formal welcome to another much more important issue from the same firm, we could not help stopping to say a word in favour of our old favourites.

Let us now turn to the book immediately before us. It is an eighth edition of *L'Oiseau*, by Michelet, illustrated by H. Giacomelli. The name of this young artist is not entirely new to us. The pages of the great French Bible, now in progress, are divided into double columns by his ornamental designs; and these exhibit as much invention, in their own way, as the cartoons of Gustave Doré himself. But Giacomelli is more than a bold and fanciful decorator; he can do more than study leaf and flower, and arrange them in tasteful folds and clusters; he can put life and character into living creatures. He is a sort of French Bewick among the birds; and his pencil can render the cruel grace of a watchful falcon, or the busy bee-like flutter of a humming-bird. He gives us many a picturesque episode. Here we see a rush of herons upon a wild autumn wind; there we meet a desperate owl, abroad in the daylight, hunted and dizzied by the clamorous crows. His favourite scenes are meadows, or wayside brooks, or cottage gardens, with their sparrows and finches; or the coppice of the nightingale, or the grove of the woodpecker; and all their varieties of herbage and foliage are detailed with charming fidelity. He has also a good eye for landscapes of broader effect, whether the marsh of the bittern, or the eyry of the eagle; but for these we must refer our readers to the book itself. The whole series, we are told, will soon appear in a new English edition, about to be published by Messrs. Nelson.

We have chosen our two larger specimens (the second of which will appear next month) from the scenes in the hedgerow; and we may here express our thanks to Messrs. Hachette for kindly having placed them at our disposal. Master Blackcap, it will be observed, is not in his most impassioned mood; he is not pealing forth those ecstatic strains of courtship, which have often made him called the lesser nightingale; he is only cheering his mate with a little quiet melody, as she bends over her nest to brood

* "L'Oisean." Par J. Michelet. Huitième édition, illustrée de 210 vignettes sur bois, dessinées par H. Giacomelli: Paris: Librairie de L. Hachette et Cie. 1867.

once more upon her treasures. She will press her soft breast upon them, feeling a strange pleasure in the pain, till she can hear a faint chirp within them; she will help her chicks, one after another, to break through the shell, and then Master Blackcap will have four or five more mouths to feed. All this, we are apt to assert, is known only to our human selves; and we complacently repeat the lines of Gray,—

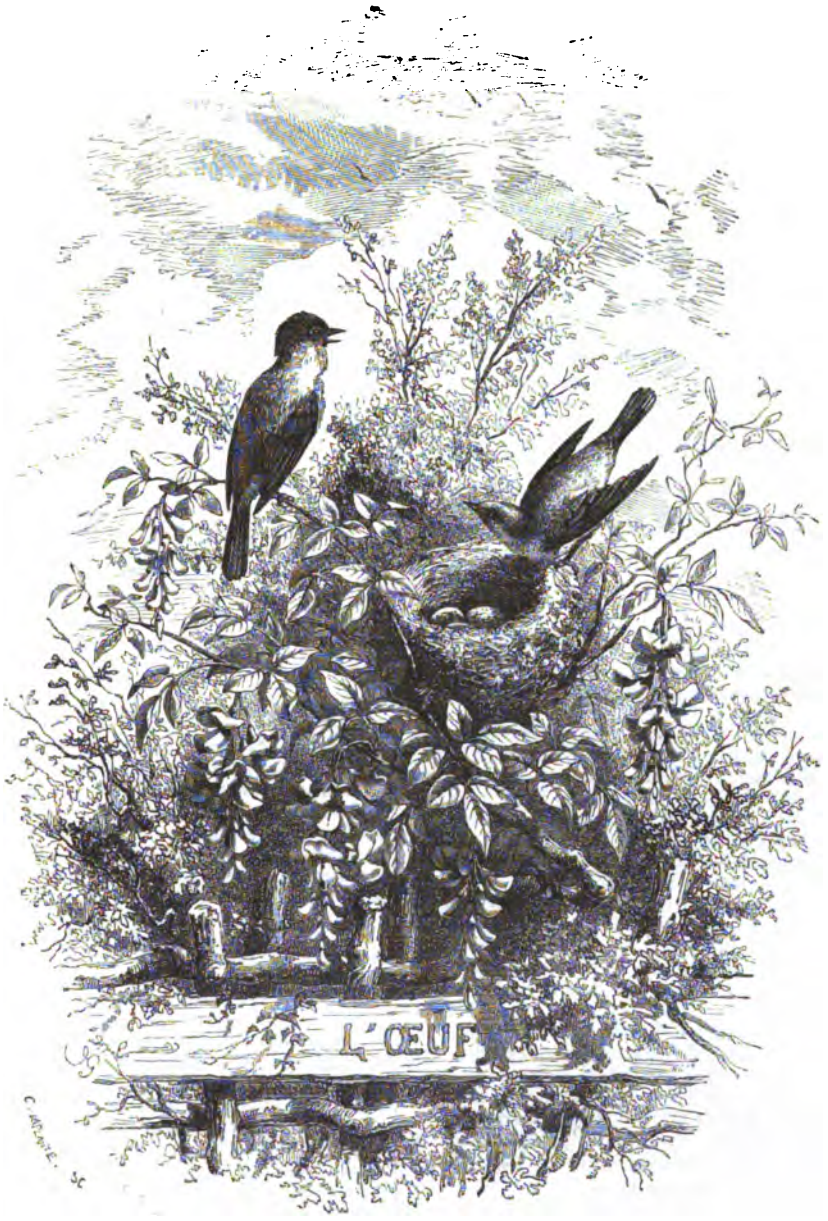
"'Tis man alone that joy descries,
With forward and reverted eyes."

But some animals must enjoy pleasures of memory, or else the dog would not "hunt in dreams," and so let us allow that the brooding bird may, in her turn, enjoy pleasures of hope. The notes of her mate, too, may convey more than a blind thrill of consolation to her, during her long hours of watching. We are not clever enough to understand his song, any more than we can understand the debates of a rookery. But if one observes a great community of rooks breaking up in the morning, after caw-caws of every variety of intonation, and following their several leaders to the right and to the left, whilst others remain at home to guard the nests, one can hardly doubt there being many meanings in a caw. As for ourselves, we hold that a bird's language consists of much more than a love-note or two, a call-note, and an alarm note. Surely the gentle pair before us are looking forward to their joys of hatching and rearing; and we cannot see why they should not be holding some sort of converse about them.

Michelet's book is an eloquent rhapsody on the bird, its place in creation, its beauty and song, and its services to man. He naturally begins *ab ovo:* and our specimen bears the heading of his first chapter, "L'œuf." In the next chapter he treats of the first development of the wing. At its threshold the artist has placed the unshapely icebergs of the Antarctic pole, streaked with sharp white fantastic outlines; the barriers of a primæval world, sentinelled by solemn spectres in the form of birds. These are the penguins,—*bird-fishes*, as the author calls them, that have stretched their fins into scaly dwarf wings, and all to no purpose. In this solitary realm of ice they look gigantic and imposing; but they are poor harmless creatures. Further on we see their northern cousins, the Great Auks, watched by two sly Arctic foxes. They may easily escape, if they are near the sea, and unencumbered; for, though lubberly birds, they are still able-bodied fishes. But we should tremble for the fate of a poor mother-bird, such as we see on another page, squatting gravely, with her young one, just as gravely squatting, between her ungainly feet. They both seem to be plunged in thought, and would take some time to shuffle off a yard or so. The penguins are of various heights, from 1 foot to 4 feet. The tallest bear an absurd resemblance to short-legged gentlemen in long white waistcoats. One might suppose them, says our author, to be near relations of their neighbours, the seals; whom they rival, not by any means in intelligence, but at least in good nature. When they first beheld man, they looked at him with placid wonderment, and never thought of moving away from him. The sailors returned the stare, almost as ignorantly, though not quite so innocently. At their first glimpse of the penguins, ranged on some sandy island, they had taken them for a row of charity-school girls in white pinafores. They soon taught the poor scholars their first lesson, the fear of man.

From birds with mere flappers we turn to a bird which is nothing but wings. Michelet describes a stormy night on the Atlantic. "But the black weather begins to clear," (he continues); "day returns. I see a little speck of blue in the sky. Happy and serene region, which has been at peace, up above the storm. In this blue speck, at the height of ten thousand feet, floats a slight figure upon enormous wings. A gull? no, for the wings are black. An eagle? no, for the bird is small. It is the daring voyager that never furls its sails, the Frigate-bird. With a body hardly larger than a dunghill cock's, he stretches out his wings over a span of 14 feet. Such a bird, so sustained, has nothing to do but to let himself be borne upwards. The storm comes, and raises him into the calm ether. The poetical metaphor is true of him, and him alone,—he sleeps upon the storm." His bill is powerful, but his feet are weak, and partially webbed. He could not fight the eagle, but he could defy any pursuit. He can cross the Atlantic in a day. Yet he is not without his cares. His hard eyes are restless, as he sails about, watching for his prey. He can dart upon the fish like lightning; but his feathers will not bear much wetting; so that he cannot plunge under the waves, like the Gannet. He has one resource: he makes the Gannet work for him. When the latter (*poor Booby*, as the seamen call him) rises with a herring in his bill, his master often swoops down on him, strikes him, makes him let go his hold, and snaps up the fish before it falls into the sea. Giacomelli has drawn two figures of the Frigate-bird: the one perched on a rock, with his wings in a short interval of repose; the other rushing over a surging moonlit sea, in the full "triumph of the wing."

Michelet very properly rebukes the Frigate-bird as a bully; but he absolutely mouths when he comes to the downright bird of prey. One day, says he, in examining an anatomical collection, he came across the model of the head of a viper. He was scandalized at Nature: she had so carefully provided her hideous child with the means of killing. There was not only an armoury of pointed and poisonous fangs, but a magazine to supply the broken ones. Almost equally painful, he continues, are one's impressions when one examines a bird of prey. His beak may strike death home at once; but his talons too often fix a writhing victim, which dies with a prolonged agony. The vulture, indeed, frequently becomes a respectable member of society, for he turns scavenger; but the eagle, Michelet concludes, is only fit to figure upon the banners of emperors, and other brigand chieftains. He is a fitter emblem for them than they may imagine; for he is by no means a type of true nobility. He whets his iron beak upon the timidest and meanest of animals, the hare or even the mouse; and he drives his young ones abroad, sometimes before they are well able to cater for themselves. The raven meets with more grace from Michelet. True, he is naturally a bird of prey, and he was the emblem of the old Northern war-god. But he can make himself at home with the modern citizen; and he displays a fund of grave humour. We will pause for the present, after telling a short anecdote of him. There was one at Nantes, says Michelet, who used to console himself for his broken wing by playing tricks upon the dogs. He would sit on his door-step, looking up and down the street. Wretched mangy curs might go by as they pleased. But whenever he saw a stately hound, or a sleek lap-dog, he would pounce right on the animal's back, and give him just two good digs with his beak. The dog would slink off, howling and crestfallen; and then Ralpho would resume his seat with an air of satisfaction, as grave as ever, and looking quite incapable of engaging in such a facetious pastime.


L'ŒUF

REVIEWS.

The Rail and the Rod; or, Tourist Angler's Guide to Waters and Quarters Thirty Miles round London. By Greville F. (Barnes). London: H. Cox, 346, Strand, W.C. 1867.

THE little work before us is exactly that which it professes to be, viz., "A Tourist Angler's Guide." It is the first book of a series, and contains much highly useful information as to the various fishing stations to be found on the *border lands* of the Great Eastern Railway, between London and Waltham, together with the railway fares, distances, places of refreshment, boundaries, club charges (day and annual), description of water, fish, and a host of other matters of equal interest and importance to the brethren of the gentle craft.

It is, we are informed, the author's intention to furnish the public with a "Wander Book," of the same description, for all the lines of railway leading from metropolitan din, smoke, bustle, and restlessness, to the margins of pleasant streams, where the speckled golden trout leap; to still, deep, shady pools, where the greedy pike lurks in ambush among the waving rushes and tufted reeds; and to where the weary son of toil may woo Nature in her most choice and attractive garb, drink in fresh air and new life, hear the soaring lark sing, inhale the perfume of sweet hedge-flowers, and when the day of pleasant relaxation is at length ended, find his way safely and expeditiously back to the struggles and turmoil of this work-a-day world, all the better for the trip, refreshed and re-invigorated. "Greville F.'s Guides" cannot fail to be received as a most acceptable addition to our sporting literature.

Elijah the Prophet. A Poem, by G. Washington Moon, F.R.S.L., Author of "The Dean's English." Third Edition. London: Hatchard & Co., 187, Piccadilly, 1867.

WE once met an Englishman, an author of remarkable talents and strong poetical feelings, who scarcely knew Elijah by name. His childhood had passed without his ever hearing how the ravens fed the prophet by the brook Cherith. He had himself used the phrase of the "still small voice," but its peculiar beauty was half lost to him, for he knew nothing of the context,—that passage of marvellous sublimity. To such a man a fine modern poem on Elijah might have proved a sort of revelation; but it would be hard indeed to find a poet equal to the theme. Mr. Washington Moon has, this time at least, been tempted out of his proper sphere; he has essayed the almost hopeless task of expanding the grand old prose into Spenserian stanzas. Fine specimens of bathos might easily be selected from any of the twelve cantos, but the honest enthusiasm of the preface disarms us. We admit, moreover, that the author is now and then seized with a transient fit of inspiration: on these occasions he generally breaks loose from the trammels of the Spenserian stanza. Our readers must be satisfied with one example,—the description of the chariot and horses sent to translate Elijah:—

"Ethereal, yet visible; for bright
Unto intensity through purest light
Indwelling, was that chariot of the skies.
The horses, too, were creatures not of earth;
Their necks were clothed with thunder, and their eyes,
Starry with beauty, told of heavenly birth.
No harness fetter'd them, no curb nor girth
Restrain'd the freedom of those glorious ones;
Nor traces yoked the chariot at their heels,—
It follow'd them as planets follow suns
Through trackless space in their empyreal courses;
For lo! the fiery spirit of the horses
Was as a mighty presence in the wheels,
And in the dazzling whirlwind which behind them flew,
And caught Elijah up as sunlight drinks the dew."

TO A SWALLOW.

From the Danish of Wilster.

I.

LITTLE Swallow, whom the summer brings,
Thou hast travell'd from afar so long:
Whither wilt thou go, to rest thy wings?
Whom wilt thou enliven with thy song?

II.

Round about the meadow art thou wheeling,
Where the buds are bursting into bloom:
Doubting where to hang thine airy dwelling:
Half a stranger in thy native home.

III.

Yonder, through the tender lime-tree leaves,
Seest thou not a low and narrow door?
Nestle there, beneath the cottage eaves;
Twitter there, till summer-time is o'er.

IV.

Never need thy brooding heart be beating,
Though a lattice open near thy nest:
Thou wilt only hear a voice repeating,—
"Where the swallow builds, the roof is blest."

V.

Speed thee,—speed upon thy winged ways;
Seek the roof above yon cottage door:
Then, if there thou bringest happy days,
Oh, how I shall bless thee evermore.

H. W.

IN A REVIEW, in the columns of the *Builder*, of Mons. Daly's "Revue Générale de l'Architecture et des Travaux publics," we find notice of a most interesting communication to that editor from his countryman, M. Perrin, General in the Siamese Army and Mandarin of the third class there. Our subscribers will be pleased, probably, to observe how the imposing illustrations of the Siamese architecture in our recent review of Mr. Fergusson's great work may serve also for the description given by the gallant general. We therefore extract the passage from our contemporary.

"He says that none would believe the numbers of marble monuments, temples, palaces, columns, and staircases at D'Ancor-viat. 'I assure you, believe me or not, that the most celebrated of ancient or modern monuments are but barracks near those I have seen here; our palaces, our basilicas, the Vatican, the Colosseum, are dog-kennels by the side of them.' Marble was the material of all around. The natives informed the general that these magnificent ruins covered an area of ten leagues by twelve. He asks, 'What city can this be? Of what empire was this the capital? I have seen temples in a good state of preservation, except the vegetation that has encrusted them, which do not measure less than a league around. They have forests of marble columns; the whole is of marble. All the walls are sculptured and ornamented. The first effect these monuments produced upon me was stupefaction. I wished to enter a temple which appeared well preserved. It had eleven flights of steps, and I know not how many flights each to arrive only at the first of the five peristyles!" Recovering, the general ascended the steps that led to a high tower, and then he ascended the tower, and thence surveyed the ruins, where he saw marble enough upon the ground, and below the ground, that could rebuild, in the fashion of giants, all the cities in the universe.

"The educated natives know not to whom to impute this ruined city; notwithstanding that their literature goes several centuries back further than ours."

NATURE AND ART

June 1, 1867.

FALCONRY IN THE OLDEN TIME.

IN the olden days of "merrie England" the royal pastime of hawking was the sport, *par excellence*, of the upper ten thousand. No knight renowned in chivalry armed for the tournament with greater zeal than that with which the English noble, in the reign of "gentle Jamie," prepared to test his skill in falconry. It was a pleasant and right manly sport, and, according to the chroniclers of the olden time, was most often sought for in the woods of Tottenham and the marshy lowlands surrounding Muswell Hill. It is a sport now nigh forgotten, but at one time how absorbing! With what enthusiasm the old writers linger on the subject :—

"I count my toil and traivale but a game,
I deeme the days not long or spent amisse,
If so I may unto my fancy frame
This book of mine, which all of hawking is;
Than which there can be found no better blisse,
In my conceit, to such as love the glee,
And force the fields where bravest pleasures be."

Thus, in the year of grace 1611, spoke quaint George Tuberville, a man who could not only tell a hawk from a hernsaw, but who was a very adept in the gentle sport of falconry. His book of "Falconrie, or Hawking," published by Purfoot, of London, is a perfect gem, black-lettered though it may be; every particular worth knowing is there recorded, and recorded in a style which marks the keen sportsman as well as the intelligent observer. Tuberville mentions seven kinds of falcon—the Gentle, the Peregrine, the Barberie, the Gerfalcon, the Sacer, the Laner, the Tunican; and goes on to say, "Among them all, for her noblenesse and hardy courage, and withal the franckness of her mettell, I may and do mean to place the falcon gentle in chief. She is called gentle from her courteous conditions and fashions." The gerfalcon is described as a bird of great force, a gallant hawk to behold, strong-armed, fierce and hardy of nature, and difficult to be reclaimed. "A gerfalcon will look to have a gentle hand kept on her, and her keeper to be courteous and full of patience." The points of a good falcon are also minutely described: —"A full black eye, with large lids; a round head, somewhat full on the top; a short thick beake, blew as asure; a reasonably high necke; barbe feathers under the clappe of the beake; a good large breast, round, fleshy, strong, hard, and stiff-bonded, for she gageth her breast most at her encounter." How happily the same bird is described by Virgil :—

"Quam facilè accipiter saxo sacer ales ab alto
Consequitur pennis sublimem in nube columbam,
Comprehensamque tenet, pedibusque eviscerat uncis;
Tum cruor, et vulsæ labuntur ab æthere plumæ."

Thus rendered by Dryden :—

"Not with more ease the falcon from above
Trusses in middle air the trembling dove,
Then plumes the prey, in her strong pounces bound—
The feathers, foul with blood, come tumbling to the ground."

The "staying" power, to use a sporting phrase, of a high-bred hawk is almost incredible. It is confidently asserted that 150 miles have been traversed on the wing within the hour, and that 100 is a common performance. During these long flights much protection is afforded by the peculiar formation of the eye, which is provided with a thin, half-transparent fold of skin, called the "nictitating" or winking membrane, which serves to clear the surface and protect the vision from the sun. Their length of life is also remarkable, if we may believe the statement that, in 1793, a venerable falcon was found at the Cape of Good Hope adorned with a golden collar inscribed with the royal name of "Gentle King Jamie," and dated 1610. Although this bird had reached his 184th year, he is stated to have been strong and vigorous.

Many curious anecdotes are related by Tuberville and others as to the peculiar habits and strange customs of the falcon. We may select, as the most wonderful, if not incredible, that which is recorded concerning the hawks of Norvega, and which certainly marks them as the most conscientious birds of prey. It is stated with much solemnity that, at

the close of a long day's sport in winter, these provident creatures invariably preserve alive the last bird which they have taken, in order that it may serve to keep their feet warm during the frosty night. When morning comes, with a rare sense of the justice of the maxim "one good turn deserves another," they not only set their captive free, but mark well the course he takes, so that they may not hunt in that quarter again and by accident return evil for good.

Notwithstanding all that has been written about the art of falconry, grave doubts still exist on a very important point. How does the falcon deal the *coup de grâce* to his quarry, when stooping? Is the blow vertical or oblique? dealt with the front or hind talon? The best-received opinions seem to be in favour of the latter mode of despatch; and certainly the formation and calibre of the hinder talons favour the idea: the "*pedibus uncis*" of Virgil is also highly descriptive. Another point in dispute is whether the heron ever impales the falcon on his sharp upturned beak, the idea being that it has not sufficient tact to practise such cunning fence. Old prints, however, such as that of "How to flye the Hearon according to Martine," show the heron confronting the hawk with both beak and claws, which favours the idea that the latter sometimes shares the fate of merry Die Vernon's favourite Cheviot.

It may be regarded as conclusive that the sport of hawking was first introduced by the Saxons during the fourth century, and that in process of time the birds became of great value. We read how, in the time of Edward III., a hawk was held to be of such value that a holy bishop excommunicated a sinner for stealing one which he found perched at Bermondsey. During the middle ages, also, they were considered as a badge of rank, and were much loved by the nobility, who were wont to take them to church; not always, however, with impunity; for we find Sebastian Brandt, in 1485, complaining that "the whole church was troubled by their outrage." In our present age of wealth and extravagance, we listen with wonder to such prices as £2,500 for a "yearling;" but is not that quite eclipsed by £1,000 for a cast of three hawks, a price by no means uncommon in the time of my Lord Orford. That nobleman kept up a regular and expensive establishment for his birds. He allotted to each hawk an attendant, and sent them to travel during the moulting season; and their average cost to him was about £100 each per annum. This, however, sinks into insignificance when we read of the princely style with which the sport of hawking was carried on in the Celestial Empire, There, according to old Marco Polo, the emperor was wont to go forth with 10,000 falconers, 1,000 men to watch, called "toscaors," and 5,000 gerfalcons; each bird having a tablet of silver on his feet inscribed with its owner's name; and surrounded by this grand array the mighty potentate reclined in his costly chamber, covered with cloth of gold, fondling his twelve gerfalcons, each one of priceless value, and each attended on by a noble of high degree. A book more curious even than Tuberville's is "The Book of St. Albans," written in 1481 by Dame Juliana Berners, the noble prioress of the monastery of Sopewell. This lady loves to dwell upon the most minute particulars. She shows how the young hawks ought to be taken when they become "Branchers;" how they should be blindfolded, so as not to injure them; how they should be cast off and reclaimed; and how their true breeding may be determined by their mounting mid-air in a succession of small circles until the quarry is o'ertopped, and the fatal stoop may be accomplished. Gervasse Malcolm, another of the ancient writers, who calls the sport "a princely and most serious delight," admonishes the readers "to gaze at hawks with a loving and a serious eye, so that they become familiar."

At all periods, and in every country, the hawk appears to regard the heron as his common prey. In the "Speculum Mundi," written at Cambridge in 1635, Sir John Shaw says, "The heron is a large fowl that liveth about waters, and that hath a marvellous hatred to the hawk, which hatred is duly returned." And what sings Somerville?—

> "Unhappy bird, our fathers' prime delight,
> Who fenced thine eyrie round with sacred laws;
> Nor mighty princes did disdain to wear
> Thy waving crest—the mark of high command—
> With gold and jewels, and bright gems adorned."

Then, indeed, the heron was a royal bird, held sacred; he is now no better than a proscribed outcast, dear only to the painters, who love to aid, with his gaunt form and ashy hue, the dim solemnity of evening lights and silent pools.

Henry VIII. loved sport right well, and built a palace for his falcons. In his reign the hills of Hornsey and valley of Tottenham abounded in game of every description, and were the scene of many a royal hunting party. How easily may the splendour of such a scene be pictured! The noble cavaliers and beauteous dames of England, each with a band of retainers clad in the bright Lincoln green; and the anxious falconer encouraging his birds and keenly watching for the quarry. Then fancy shows us the stately heron resting on the marshy low ground, musing, as it were, over his bygone greatness; then, suddenly becoming aware of danger, slowly expanding his enormous wings and seeking safety in flight. And now the woods resound with the ringing, "La la sensa!" "Leigh ho!" "Leigh cass!" as the unhooded falcon is cast off in quick pursuit. How they wheel round and round each other in successive aërial circles, each striving to mount the higher. The heron at length, as if wearied, takes his course straight up; while the falcon's instinct teaches him that the circle is the slow though certain path to victory. Now for a moment both birds float poised in mid-air, as if husbanding their strength for the final effort. One instant more, the sunbeams glance brightly on the falcon's azure neck, as arching it prepares to strike, and then the fatal stoop! Such was this princely pastime in the olden days.

ON SKETCHING FROM NATURE.

By Aaron Penley, Professor of Landscape Painting at the Royal Military Academy, Woolwich.

No. XI. STUDY OF STONES ON THE NORTH SIDE OF TALIARIS, NEAR LLANDILO, SOUTH WALES.

THERE are few details in the foreground of a picture of more value to its effect than detached groups of stones, large or small. In no other objects do we find greater diversity of colour, although composed of the same material; and it is quite true that, although masses from the parent rock lie side by side, yet each and all vary in tint to an extraordinary degree. This offers us every desirable change of tone whereby our foreground can be enriched; and groupings of stones are no less valuable for the introduction of colour than for the distribution of light and shadow; for, being often the medium of some concentrated light, they become, as it were, the key-tone or focus of a whole drawing: this, however, will depend greatly, or, I should rather say, *entirely*, upon the character of the subject. The introduction into a scene of large stones (fallen or surface stones) should always be the result of knowledge as to their possibility of getting there; and I mention this from the fact of their sometimes being a kind of stereotyped adjunct to a foreground, quite irrespective of the geological character of the site. This is an error so common, that the artist can at once detect between a truthful sketch and a tricky deception practised by a tyro. It matters little what the subject may represent, if there be a strict adherence to reasonableness throughout, without bringing into notice any foreign objects totally at variance with the scene. Nothing shows greater ignorance than this; and I feel it would be an omission on my part, where I not to give a word of caution against so great an error.

The group of stones given for our subject is a part only of a sketch drawn and coloured on the spot. It will be found to combine variety of angular forms, and much diversity of colour, as well as great force of light and shade. In drawing groups, or even single stones, of this description, great attention should be paid to the general outline, and the several angles which are presented to secure an appearance of a broken surface and of stone-like fracture. In almost every instance there must be a crispness of edge to each part, without softening or melting of one into the other. However slight the washes may be in the lightest parts, yet they must all have clear and decided edges. Indeed, if they do not, the consequence will be a semblance to dough or putty instead of to stones. It is also of great importance that the breakage of divided portions should be properly and very attentively cared for, inasmuch as this is peculiar to each class of stone.

In a subject so local as this I have selected, I shall not enter into minute detail as to its stages of progression, but would remark that the principal thing to be observed throughout, is to leave the whole of the lights clean, sharp, and well defined. To effect this, a true pencil outline is imperative; without it there cannot be a successful result. As regards the colouring, the student must determine those parts that are warm and those that are cold, that is, which tones are inclining to the yellow, orange, red, lake-purple, or blue-purple, to grey or blue. It is only by a true balance of each that agreeable impression can be made, so that it is to be hoped this matter will have some consideration before commencing with the colour. The sky is produced simply with COBALT and a little LAKE. The light tints on the stones are obtained with YELLOW OCHRE, BURNT SIENNA, LAKE, and COBALT, in different proportions, agreeable to the tint required. All the shadows are done with BURNT SIENNA, LAKE, and INDIGO, varied,—and a little GAMBOGE introduced where the deepest touches are seen, because it causes the other colours to hold out with greater power from its being a natural gum and having a glossy quality. The herbage is of a mixture of GAMBOGE, BURNT SIENNA, and INDIGO, more or less of one than the other, and LAKE introduced upon the indications of heather. The top of the hill and the small loose stones must be coloured in with COBALT and LIGHT RED, and the short grass of yellowish tone is of YELLOW OCHRE and BROWN PINK, and in the greener parts a little INDIGO added.

The foregoing instruction will be found sufficient to enable the learner to copy with accuracy the subject before him. I have introduced it into the pages of NATURE AND ART for the purpose of giving an insight into the manner of portraying masses of fallen stone, thinking the season for sketching from Nature is coming on, when many will seek for converse with scenes of beauty, grandeur, and interest.

I take this opportunity of giving an extract from a letter received from a subscriber to NATURE AND ART, and I do so to clear up any misapprehension that may be felt by others upon the same point.

"Sir,—May I, as one of the numerous admirers of your sketches in NATURE AND ART, be permitted to call your attention to a want in your instructions which I fancy must be more or less felt by a great number of those who seek for instruction from them? I allude to manipulation.

"In looking at the 'copies' one is struck with the effect produced by innumerable dots or specks overlaying the flat tints, sometimes of the same, but not seldom in other colours. No allusion is made to this dotting in the letter-press, and the student is left to wonder whether the same effect is expected to be arrived at by flat washes (no mention being made of other *modus operandi*), and if recourse is only had to this treatment of the subject, in order to supply some defect in the matter or manner of painting."

The "numberless specks" referred to arise from the fact of the several tints being obtained from a point of lithographic chalk instead of by flat washes put on with the brush. It is a defect that cannot be entirely overcome, where there is any gradation of tint to be given; so, that where they are seen to exist in a sky or elsewhere, they must be regarded as meaning to convey the idea of so many flat tints, and should be copied simply as such. There is, however, an improvement even in this; and I am constantly impressing upon the mind of the artists who copy my drawings upon stone, how requisite it is that this granular character should be overcome, it being likely to mislead those who are desirous of profiting by the several studies presented to them.

I have thought it as well to bring the above remarks before the readers of NATURE AND ART, in order to remove any false impression they may have entertained upon the subject.

A REMINISCENCE OF THE PYRENEES.

IT fell to my lot some time back to spend nine or ten months in the midst of the Pyrenees. And not content with pursuing the beaten track of tourists, and visiting spots well known to all travellers in that delightful region, I was resolved, if possible, to get a glimpse of some of the wilder and more inaccessible passes which are familiar to those only who dwell in the neighbourhood, and are reported to be grander and more beautiful than those usually visited. In the month of July an opportunity offered. A party was made up for chamois-hunting. The "*chasse aux izzards*," as it is called in the Pyrenees, is a frequent source of occupation and profit to the hardy mountaineers on both sides of the frontiers; and those visitors who are not daunted by some little danger and a good deal of fatigue, and who enjoy an excursion where they can for the time at least shake themselves free from the restraints and conventionalities of civilization, would do well to avail themselves of such occasions as may offer.*

The *izzards*, however, are generally very wild, and growing every year scarcer, so that it is very possible to go out many times into the higher ranges without ever being rewarded even by the sight of one. The two great desiderata to secure are, 1st, a really experienced hunter who knows the haunts of these animals; and, 2nd, a sufficient number of thoroughly painstaking *traqueurs* who will carry out the directions of the hunter. All the Pyrenean watering-places furnish excellent guides for ordinary excursions; but something more than a mere guide is necessary for izzard-hunting.

The party on the occasion in question consisted of a Midlothian laird, an English clergyman, and a Mons. de G., who were to join two French officers already in the mountains on a similar expedition, with Baranne, an excellent *chasseur*, who was engaged for both parties. We left St. Sauveur at six o'clock on a glorious July morning, on horseback, and rode to Cauterets for breakfast, which the landlord of the Hôtel de France furnished in excellent style. By the way, it may be well to remark that, in almost all French towns, there is a Hôtel de France, and that in almost all cases it is found to be good. At Cauterets, which is one of the best hunting-quarters, we met our guides and *traqueurs*, and held on our way on foot through the wonderful scenery to the south-west of that place, by the baths of La Raillère to the Pont d'Espagne, a route well known to all Pyrenean tourists for its picturesque beauty. Up to this point a large number of those who had breakfasted with us at the table-d'hôte of the Hôtel de France accompanied us, but they now turned off to the south-east, towards the Lac de Gaube, the largest of the Pyrenean lakes, situated at the foot of the Vignemâle, one of the highest peaks of the range. We turned across the Pont d'Espagne to the south-west, along the mountain path leading to Panticosa. The scenery is beautiful beyond description—rich in the luxurious foliage of the south. Acres are covered with rhododendrons now in full bloom, with a dark-green background of pine forests, above which the mighty granite peaks tower bare and jagged to the clouds.

On emerging from one of the long stretches of forest, we were strangely reminded of home by the sound of the bagpipe, which seems to be indigenous to most mountain districts; but here it is a very feeble instrument compared to its big brother of

* The identity of the *izzard* with the chamois of the Alps has been disputed by some naturalists; but on no sufficient grounds. They are evidently the same animals; the differences are so slight as to be accounted for by the variation in climate. The izzard weighs on an average about 45 lbs. There are two methods of hunting it. One is stalking, as in Scotland, and this, from the nature of the ground, is very difficult and fatiguing, and much more uncertain than the other, in which the shooters are posted in favourable spots, and the *izzards* are driven towards them by *traqueurs*. If the sport be pursued in the winter or autumn, the game is found much lower down on the hills, and the fatigue is much less. In the summer you have more settled weather, and perhaps better chance of game; but you must be prepared for severer physical trial, both from the greater height you must ascend, and from the intense heat to which you are inevitably exposed.

our northern hills. As we reached Marcadaou—*i.e.*, the shepherd's hut which goes by that name—the mist came on very thick, and the air struck damp and chill as we halted half an hour for a meal of goat's milk and bread; and it was felt that it was time to push on, if we were to reach our resting-place for the night before dark.

Leaving the Panticosa road to the right, we now struck off nearly due south, following the course of the Gave, a river on the left. It was an ascent all the way; vegetation grew more scant, and soon neither rhododendrons nor pine forests were to be seen, but in their stead huge boulders of rock, with here and there a grassy spot, affording scanty herbage for the goats which form the chief wealth of the mountaineers. The valley seemed to terminate in a *cul-de-sac*, with no apparent egress; and no vestige of a dwelling, not even of a hut, was visible. Here, however, was to be our camping-place for the night. The guides pointed out as our nest a hole formed by two masses of rock, with another which had fallen from above resting upon them as a roof, the entrance in front blocked up with a few rough pieces of timber. It was a queer place for a night's lodging, but it was the best, for it was the only one to be found. A dinner, however homely, is always welcome after such a climb as we had had to our mountain cave; and as soon as we had discussed this needful refresher, we were not sorry to stretch our weary limbs on the platform of rock, covered with an old cloak or two, which made our bed. But, alas for sleep or comfort! those same cloaks swarmed with fleas, and proved one among many enemies to repose.

At eight, P.M., while discussing some goat's milk and bread, we were joined by Baranne and the two French officers, who had been out hunting all day without success. These made up our whole party to about fourteen, and closely packed we were in the miserable hole that formed our refuge from the cold. Sleep is not easily won in such uninviting quarters; but in spite of fleas, in spite of the perpetual jabbering patois of the shepherds, who arrived one after another and proceeded to cook their evening meal; in spite, too, of the smoke from the fire, which found vent only by a hole in the natural roof, we did manage to get an hour or two, if not exactly of sleep, yet of rest; and at daybreak, about four, A.M., a wash at a spring which gushed from the rocks just behind our cave, soon freshened us for another start. Now we got a clear view of the scene, which the last night's mist had partially concealed, and a wild one it was, not unlike, though on a smaller scale, to the well-known "Chaos" near St. Sauveur.

It was nearly five o'clock when we got fairly off for the spot where we were to await the *izzards*. Our course lay nearly south, directly across the mountains, towards Panticosa; we soon came upon what to me was a new feature—the glaciers. Hard as stone, and slippery as glass, to cross them is no child's play. Every step must be cut with a hatchet, and the feet planted firmly in the holes; the whole party move in single file, and, when there is danger of precipices or crevasses, are lashed together with ropes. There was but one of these ugly features on our route; the glacier here was almost perpendicular, and at its foot was a half-frozen tarn, into which we must have inevitably rolled if we had made a false step. However, this obstacle safely surmounted, we passed directly afterwards from France into Spain, by a small *brêche* in the mountain wall, which bounds the two kingdoms. From this spot a most magnificent scene opened on our view: in wildness and savage sublimity I have never seen it excelled, and rarely equalled, even in the Alps. In front of us, some three or four miles across, and perhaps seven or eight in length, lay an elliptical valley, shut in by a serrated wall of rock, which looked at a distance almost like a battlemented fortalice. This valley was entirely snow, containing within its area no less than seven frozen tarns. Beyond the crest of the encircling peaks, to the south, stretched four ranges of mountains loftier still, some black with pine forests, others like the waves of the sea, tipped with white foam, and others, again, bare jagged granite peaks, gradually melting away into the hazy plains of Arragon, towards Zaragoza.

Traces of *izzards* had been found all along our track, but no game had been seen as yet. After pausing awhile to gaze on the wonderful scene around us, we pursued our way cautiously downwards into the snowy valley beneath; and now, a signal being given by a hunter on the heights above us, that *izzards* were in sight, all were instantly ensconced behind the rocks; but the game went off to the left, and we saw them ascending a glacier, and disappearing through a *brêche* in the granite wall which formed its boundary. As soon as all trace of them was lost we toiled on, till we came upon a few rocks rising like an island out of the sea of snow; here we bivouacked and breakfasted. Another half hour's climb brought us to the rocks which Baranne had pointed out as a suitable place of concealment. Here we waited four terribly long hours, a period more trying, if anything, than the time we had occupied in our ascent; for now the sun was high in heaven, and the heat was overpowering. There was no possibility of shelter, and we soon began to find our faces blistering and our eyes growing almost blind with the intolerable glare. We began now to think of retracing our steps, when suddenly seven or eight *izzards* came bounding across the glaciers towards some rock in front of us, but as yet far out of gun-shot. The *traqueurs* here made a great mistake, and entirely spoiled our chance of killing an *izzard*. Instead of descending, one on the right, the other on the left of the game, they both came down the same glacier on the right side, thus leaving the left open to them; if they had done as they ought, the *izzards* must have been driven to pass directly in front of the rocks where we were posted, and in all probability within rifle range. In consequence of this error on the part of the *traqueurs*, the game escaped by a lower glacier, and made off by the side of one of the tarns to

the top of the mountain, whence they had been scared.

On this unsuccessful termination of our *chasse*, we made the best of our way back—a process not so easily effected as described; it was, however, somewhat easier than in the morning, for the sun's power had now melted the surface of the snow, and we were enabled to get a footing more readily. It took us an hour to reach the *brêche* into France, during which I missed my footing once, and shot like a sky-rocket about forty feet down a glacier, happily without any other inconvenience than the trouble of having to retrace my steps. On passing the highest glacier we lost sight of our friend, Monsieur De G., who was completely knocked up, and remained in charge of one of the guides. Meanwhile E. and myself, with another guide, walked on as fast as we could to Cauterets, which we reached at half-past seven, P.M., having left our post on the Arragon mountains at half-past three, P.M., thus accomplishing in four hours a distance of at least twelve miles over glaciers and rocks, by a most fatiguing road for the greatest part of the way. Thus ended our "*chasse aux izzards*," in which, if unsuccessful in killing game, we had the satisfaction of seeing the animals in their native wilds, and were amply repaid by the magnificent scenery through which we passed, and the pleasing excitement which broke the monotony of a usually uneventful life.

THE DESERTS OF PERU, AND THEIR WEALTH.

By WILLIAM BOLLAERT, F.R.G.S., &c.

THOSE who in youth have traversed and hunted in the Pampas or the Llanos, ascended to the high table-lands, and explored the deserts of South America, become attached to those regions. I must own to the fact, that I have an affection for the *Despoblados*—the uninhabited and uninhabitable deserts—having resided in and about those of Peru in particular for some time.

I have already in "Aspects of Nature in Peru,"* and "The Flower Spots of the Desert,"† adverted to desert matters, but principally of a local character. In the present I purpose to treat the subject of the Peruvian deserts in some detail, and endeavour to give an account of the more salient objects of interest found there.

The term desert is a general name for rainless, stony, and sandy regions; the hopelessly barren tracts across them are known as *travesias*, and when entered upon for the first time, produce a profound sensation of melancholy on the European traveller.

The whole of Peru is traversed in its length by the Andes, a portion of one of nature's colossal walls running from the Arctic to the Antarctic; formed by huge upheavals of igneous matters, and which still show their signs, in the numberless dormant and active volcanoes, jutting boldly out of the Cordilleras. On their flanks repose stratified rocks, once horizontal, but now heaved up. On the east, in Peru, are the more gently descending lands, stretching to the Amazons and Plata; westwards are the narrow, abrupt, and broken slopes, which, as they approach the coast of the Pacific, show extensive lines of desert plains, and high escarped and dangerous rocky shores. In a general section from west to east, large districts of mountain ranges rise directly from the sea, in which gold veins are occasionally found. The siliceous rocks, by their disintegration or wasting away, are the prime sources of the sands of the deserts: then come the porphyries, which contain copper veins. The wearing away of this latter rock gives rise to another sort of débris. The long-continued scorching heat of a tropical sun; the air, particularly when impregnated with saline matters from the sea, and occasional dews, are the destructive agents of the rocks.

On various parts of the coast the dioritic, and perhaps granitic, and porphyritic rocks have broken through the argillaceous limestones and other strata: in these silver is found in veins, as well as in nodules of all sizes in the breccia of the argillaceous limestones. On the sea-coast are observed many sandy shelly plains, some of them entirely made up of shells, of species now living in the ocean there; thus showing that these are plains of elevation, and not of very ancient date; indeed the process of elevation is going on. In some of these plains the shelly deposit is many feet in thickness, and it is quarried, calcined, and used as lime for building purposes. Where I have observed such very large quantities of dead shells in these probable plains of elevation, I could only find but very few live ones on the shores washed by the sea. Have the shell-fish migrated in consequence of the region having been disturbed, say by earthquake elevatory action?

Here and there rather large collections of bones of the whale are found on the shores of the Pacific, some much above high-water level. My old friend and fellow-traveller, Mr. George Smith (of Inique), tells me that near the port of Junin, N. of Iquique, he lately found bones of whales at an elevation of more than fifty feet above sea-level, and buried under ten or twelve feet hard, rocky débris. On the margins of some of these shelly plains, and where

* "*Intellectual Observer*," December, 1862.
† "*Intellectual Observer*," April, 1863.

sea-water may percolate, or get into hollows, chemical changes go on rapidly, and much sulphate and carbonate of lime and other salts are found. When the sea-water is left in hollows and splits amongst the rocks, solar evaporation causes the deposit of sea-salt. At Huacho, 11° 8′ S., large quantities are formed and exported.

When we pass these mountains of the coast, particularly in South Peru, we come upon extensive table-lands, from 3,000 to 4,000 feet above the level of the sea. Such a one is the extensive Pampa de Tamarugal, in the Province of Tarapacá, where we find so much common salt, nitrate of soda, and borate of lime. However, here the saline bodies, I suppose, have found their way by percolation with water, from the volcanic Andean regions, where there are immense plains covered with salt (the salt most probably of volcanic origin), one of which I saw stretching from 19° 30′ S., for about two degrees of longitude, and to near the mines of Potosi.

In the desert, from the port of Islay in 17° S., to the city of Arequipa, a distance of 90 miles, the sand is mixed with a white dust, in all probability thrown out of the volcanoes in that district. The decomposition of the trachyte of the valley of Yura and Arequipa, yields sub-carbonate of soda, used in the manufacture of soap. Each 5,000 square yards of soil is valued at £200, and every six weeks a harvest of sub-carbonate of soda is reaped. Between the port of Arica in 18° 28′ S., and Tacna, there is a desert of 50 miles across. On examining the sand here, I found it to be made up of small but perfect crystals of quartz, which shine brilliantly in the sun. What is curious is, that there are apparently no quartzose rocks in the vicinity of this desert. Can these crystals be volcanic?

On the route from Tacna to Arequipa, between Locumba and Moquegua, it is reported that numerous recent marine shells are seen in the sand, and this track is some considerable distance from the sea and much above it. At Paita, in 5° 5′ S., I noticed cliffs which are from 300 to 400 feet above sea-level, composed of horizontal layers of sand containing shells, and was informed that as far as twenty-four miles inland similar arrangements of sand with shells were to be met with.

I have been describing localities along the desert coast of Peru, and a few leagues inland. Nearer or farther we come to the real bases of the Andes, and having arrived at a certain elevation, we find vegetation between mountain ranges, which diminishes as further altitude is obtained. We traverse the passes of the Cordilleras, and descend slightly into the high table-lands, or the Thibet of the New World, where we find many lakes, including the large one of Titicaca, surrounded by rough pastures. During the summer months, nearly every day after meridian, there is lightning and thunder, with, at times, rain, hail, or snow; which cause the ravines to convey water to the lower country. Hereabouts spring up the mighty mountain masses of the Ilimani and others. Continuing in an easterly direction, we descend to the wondrously wooded and pasture lands that stretch off towards La Plata and Brazil.

We come now to the other great element, namely, the atmosphere: we may say, that the laws of the winds are the bases of the distribution of sterility and fertility.

The warm tropical winds or trades from the east are moist, and, blowing against cooler land, they deposit their moisture in rain; consequently, the eastern side of South America is the moist side, and the western the dry; a very great extent of its coast being completely desert. However, in the winter season in Peru, the gentle north-west winds from the Pacific bring some little moisture to the land. America generally is said to be the forest continent, and where there is some lack of moisture, there are the great pampas, llanos, and prairies; where the winds are still dryer, there are the deserts, as those of California, coming south to Peru; the whole of its coast is in this state; in the north is the extensive desert of Sechura, in the south that of Atacama.

Dana well observes that the great truth is taught us by this air and these waters, as well as by the lands, that the diversity about us is an exhibition of perfect system. If the earth has its barren ice-fields about the poles, and its deserts no less barren towards the equator, they are not accidents in the making, but results involved in Nature's scheme from its very foundation.

Sand, then, is comminuted rock of any kind; but common sand is mainly of quartz; thus, according to its locality, it forms sand-bars, sand-drifts, sand-hills or dunes on sea-shores, and moving sands of deserts; it is of this last form that an illustration is offered.

The rainless coast of Peru* consists of a line of deserts from near Tumbez in the north, to the river Loa in the south, a distance of some 1,500 miles. The same characteristics belong to the coast of Bolivia, comprising the coast of the great desert of Atacama, which extends into the north of Chile. The width of these deserts are from a few miles to sixty or eighty, as the branches of the Cordilleras approach or recede from the shores of the Pacific. Were it not for the stupendous background which gives to every other object a comparatively diminutive outline, the sand-hills might often be called mountains. One such example may be seen in the rear of the town of Iquique, in 20° 12′ S., which, when surveying the district with Mr. George Smith, we called "The Elephant," its outline having something the appearance of that animal. This long line of sterile country is intersected by small streams, the distance between which is seldom less than twenty, and in one case is a hundred and twenty geographical miles. The narrow slips on the banks of a stream are peopled in proportion to the supply of water, resulting from the little rain and the melting of spare quantities of snow and ice in the Andes. Under the Incas the system of irrigation by lengthy aqueducts, and

* See General Miller's Memoirs.

manuring with guano, was carried to great perfection, and the population in these desert places was more considerable than at present. Between the streams are the *Travesias* or real deserts, where neither bird, beast, nor reptile are seen; where, in all probability, a blade of vegetation never grew, and where the only indication that the desert has been trodden before, is an occasional cluster of human bones, and the remains of beasts of burden which have perished. When the traveller becomes fatigued, or his animal jaded, he dismounts, and if the sun shines, he spreads his poncho between the fore and hind legs of his mule, and lies down underneath the only shade to be obtained in the shrubless waste.

In some places the deserts are thickly studded with *Medanos;* these are mounds of sand raised by eddying winds, that extend their influence several leagues from the mountain ridges. The *Medano* is in the shape of a crescent; the interior face is at times very many feet in height and nearly perpendicular, the outer front sloping like a glacis, and the horns diminishing to a fine point. Whatever may be its dimensions, it always assumes this form, until, upon approaching nearer the line of mountains, it gradually loses its symmetry. The *Medanos* from their repeated shiftings create a labyrinth extremely irksome even to *vaqueanos* or guides, who have no clue by which to direct their course, and it is not an uncommon occurrence for the most experienced to lose their way.

My old and esteemed friend, the late Col. C. Wood, of the Chilian army, on the occasion of the retreat of the patriot forces from before the Spaniards, in 1823, became separated from his party, and was lost for two days and a night amongst the *Medanos*. He had neither food nor water for himself or horses. He informed me that he did not suffer much for want of food, but the want of water to quench his burning thirst was intolerable, producing at last a dying-like torpor. The first day he pushed on rather rapidly in and out of the sand-hills, ofttimes dismounting, and climbing to the summit of one; when at the top, there were higher ones in advance and all around. Night came on, when he took up his quarters. He travelled about slowly the second day, leaving to the sagacity of his horse his extrication from this dilemma, until, fortunately, about night-fall, he arrived at Ica.

In my journals for November, 1826, I find it noted that a sailor about twenty-two years of age, calling himself "William," arrived at the silver mines of Huantajaya, in the province of Tarapacá, where I was then stationed. He had run away from his ship, an English whaler, the *Mary*, or the *Warrens* of London, which had put into the port of Iquique. His ship had sailed without him, so we took him into our employ, when he informed us that before he went to sea, he had been a waiter at the "Green Man and Still," in Oxford Street. On the 30th November he went with two mules from Huantajaya to the mines of Santa Rosa, situated in a high mountain in sight of the former place, returning safely. On the 4th December, 1827, he was sent with a note from my companion, Mr. Geo. Smith, to Santa Rosa. He did not return as was expected, and on the 6th we received information, that it was supposed he had run off into the interior. Nothing more was heard of him, until 1845, when his skeleton was discovered at some distance from the track between Huantajaya and Santa Rosa, and in the pocket of his waistcoat a reply to Mr. Smith's note. I have been somewhat particular in giving these details, which have but lately come to my knowledge, as it is possible this may be the first information the friends of "William" may have of his untimely fate.

Two persons employed at the nitrate of soda works were lost in the neighbouring desert, one a Mr. Blackadder, going from the port of Pisagua to Iquique, a distance of about forty-five geographical miles, the other a Herr Wagen, going from Mejillones to Camiña.

I am obliged to my friend, Mr. George Smith, for the following extracts from his journal of January, 1863. He had left Iquique for Mejillones in search of a new port, between that place and Pisagua, for the embarkation of nitrate of soda produced at his refineries in the interior.

The dangers and difficulties encountered by Cateadores, or mine-hunters, or other explorers and travellers in the countries under consideration, will be understood by the incidents detailed:—

"15th January.—Mariano Oviedo and my son William came down the *cuesta*, or mountain track, leaving the animals halfway; I, in the mean time, had arrived at the bottom, on the very rocky shore, before them, and had examined the locality, appearances of the anchorage, and landing, both of which were very bad. On an elevation some hundred feet above the water there was room for only one establishment.

"On returning to our *pascana* (resting-place), we heard the cry of '*Mi ahago*' (I am drowning); and on looking around, we saw our guide, Antolin Barreda, some hundred or more yards out at sea. At the moment, we knew not what to do, and the only chance of saving the poor fellow's life was to try to carry out to him the end of a number of *sogas*, or woollen ropes, tied together, taken by force from an Indian we found amongst the rocks loading some donkeys with guano.

"El valiente Guillermo* (William Smith), volunteered to swim out to him, dragging the sogas along the surface of the water. He did his task in masterly style, and reached the man within a few feet, when we found to our horror that the sogas were at full stretch. I had the end on shore, which I held over the sea beneath as far as I could reach, without falling over the cliff into the sea. Guillermo, finding the man so completely bewildered as not even to hold out his hand, which might have been reached, called to me to let go the soga, which I did with heart-rending reluctance. Guillermo then put the end of the soga

* Shortly afterwards, Guillermo Smith entered the Peruvian army, in which he is at present a major of Artillery. He commanded one of the Blakeley guns, carrying a shot of 450 lb., in the Ayacucho battery at Callao, when the Spanish fleet attacked that place on the 2nd of May, last year (1866). He was fortunate enough to inflict most serious damage on two of the Spanish men-of-war; one shot went through the steam-chest of the *Villa de Madrid*, killing, wounding, and scalding some thirty of the enemy. The Spanish fleet was beaten, and had to sheer off. The badly-damaged portion went off in the direction of the Philippines to refit, but had first to make the Sandwich Islands in their way for temporary repairs; the other portion took the route round Cape Horn.

into the man's hand, and returned with all speed to the other end, which was floating some twenty yards from the rocks. He then commenced tugging, with all his strength, to drag the man towards the shore; but the strength required was too much for him, and, when nearly exhausted, a heavy sea rushed in round the rocky point, foaming in all directions. Poor Guillermo was covered by it for so long a time that my heart sunk within me, fearing he would rise no more. Of course he let go the soga to save himself, and when his head did appear above the water, he called to me for assistance, saying that he could not stand another sea. I was soon stripped; and calling to him to keep up his spirits, made the best descent possible over the broken rocks. With anxious eyes upon him, I waited the result of a few moments, and saw that he had yet strength to reach the shore. I was partly in the water, ready to strike out if necessary. With some trouble I got him up the rocks, where he remained for some time unable to move, and throwing up the sea-water he had swallowed.

"All this time our poor guide was insensibly beating the water with his hands; and, for all that I could do, I could not get him to keep them under water, and use them in making way for the shore. He knew nothing whatever of swimming, but most surprisingly kept his head above water for more than an hour, and at last gradually disappeared. This was a most appalling sight to see a fellow creature so long in the water, and having no means at hand to save him. One more soga would have done it. . . This dreadful accident will cause us to remain on this inhospitable shore to-night, as we are all depressed with fright and gloom, and not fit to get up the *cuesta*, which is so steep and long.

"At 6.30 p.m. we make the best meal we can upon what the drowned man's ass had pleased to leave. In our absence, the ass got hold of our *alforjas* (saddle-bags), and helped itself to nearly all, but has not drunk the brandy: so far we are well off. No doubt we shall have plenty of beastly, blood-sucking, black bugs of the Pampas, called in Peru, *Binchucas* or *Chirimachas* (Reduvius), for bed-fellows to-night.

"16th January.—Passed a very fair night, considering the stony description of our beds; and at daylight prepared for our return to Sal de Obispo by another track, sending our animals to meet us in the *cuesta*-top. . . Started alone for the *caleta* (inlet), to the N. about two miles, and I never had a more hard task, many of the passes being so dangerous, with thousands of difficulties. I arrived there with Guillermo, who overtook me, but I was completely done up. I sent him off to meet the rest of our party on the top of the mountain, and to send down an Indian with water and something to eat. The Indian presently arrived with water sent by Oviedo, but had heard nothing of Guillermo; so I sent him back immediately, and determined to stay upon this melancholy shore until the morning—when I expected a mule from Oviedo—my only companions sea-birds and vinchucas.

"I had observed some of the *Vinchucas* walk off full of my blood, but did not feel their bites. Being completely tired out, and suffering from thirst, I tried a bathe in the sea. I felt relieved, and then crept under a large block of rock, which was supported at both ends, leaving just room enough for me to creep in, and upon rounded stones I passed the time, asleep and awake, until about midnight. It was moonlight, and with great effort I made a start for the *cuesta*. I never had so hard a job in my life. The side of the mountain was so steep, that I could only climb a few yards and then rest awhile to recruit strength and breath, and again struggle forward. The ascent was so steep, that to rest myself I had to lie on my back with outstretched legs and arms, and even so I was not safe, as I found myself sliding down on more than one occasion, which movement awoke me from profound sleep, into which I invariably fell the moment I stopped to rest. I came at last to a narrow path, and on this I found a secure resting-place, and there I slept until about 8 a.m. on the 17th. When Osorio hove in sight, coming down the mountain with the animals to my relief, I was about half-way up and could not move another step. I drank a bottle of water, and we proceeded. At the summit we had a meal. Mine was three cups of tea with plenty of brandy in it. Height of the *cuesta*, 1,765 feet. Got again to Sal Obispo."

On my journey from Peru to Chile by the coast in 1827, mainly in search of reported masses of meteoric iron existing in the great desert of Atacama, leaving Paposo, traversing Mal Paso, a very dangerous and rocky track overhanging the sea, I came to Hueso Parado, where I fell in with a party of Indians I had hoped would have crossed the desert, but their journey was only along the coast.

The subject of the meteoric iron haunted me, and on my companions observing, that if I were a *Vaqueano del Desierto* (a good desert traveller) I might cross the desert of Atacama, and about a spot called Huanaquero, find one of the *Reventasones*, outbursts, or mines of pure iron, I decided at once upon the exploration; and giving my mule a good drink of water (for in all probability it would be two or three days ere the animal again had one), I started alone upon a track running E. N. E., and was informed that after travelling some twenty-five or thirty leagues I should come upon the track from Copiapo to San Pedro de Atacama, about Baquillas; then pursuing this track northerly come to Huanaquero Grande, the position of one of the *Reventasones*. Should I find no one there, I was to continue onwards to Peine, the other *Reventason*.

I had travelled about three hours, when I found that instead of the track I thought I was on, I had got among others, going in all directions, which on careful examination proved to be those made by troops of Huanacos in their search for water and pasture. In a word, I was lost, and had got also amongst half-moon-shaped sand-hills. Out came my compass, and, as well as I could, I commenced travelling westward to the coast. I was perplexed indeed, working my way in and out of the sand hills. Having got up one of them with difficulty, in consequence of the looseness and depth of the sand, I hoped to see the mountains of the coast; but arriving at its summit, beheld yet another in advance of me. I descended in a thoughtful mood, sat down, smoked a cigar, and came to the wise conclusion to let my mule have its own way. Mounting, and throwing the reins over its neck, the animal began ambling cautiously in and out of the sand-hills. When, about dusk, we struck the coast track, thankful indeed was I for having thus escaped being lost in the terrible desert of Atacama, another victim to science.*

I will now proceed to say something of the wealth accruing to Peru, in consequence of the rainless character of its shores on the Pacific.

In the north, near Tumbez, the coast is washed by the great river Guayaquil; but coming south the want of moisture is soon observed; from eight to ten years pass without rain, but when it does

* See report by Dr. R. A. Philippi to the Government of Chili of his explorations in the desert of Atacama in 1853, where he describes his falling in with specimens of the meteoric iron of Atacama.—*Trans. Geographical Society*, 1855.

"History of Meteoric Iron of Atemaca, by W. Bollaert.—*Journal of Meteorological Society*, 1858.

rain, such is this quantity, that certain places are inundated; after which there is a spontaneous vegetation, of pasture, flowers, and fruit. Close upon this state of things, follows the great desert of Sechura, of nearly one hundred miles across. The atmosphere is calm, surprisingly clear, and, during the day, excessively hot.

The quantity of fish in the waters of this portion of the Pacific, and the still large numbers of huano-producing birds, may give some idea of the still greater number of the latter in former times, when they could so deeply cover the Lobos Islands in 6° to 7° S. Did rain but fall in this or other portions of the coast of Peru, there would be no huano; however numerous the birds, their droppings must have been washed into the sea. In 8° 30′ S. are the huano islands of Guanapé.

We now arrive at the extraordinary deposits of huano at the Chincha Islands. There are three, the North, Middle, and South, in latitude 13° 30′ S. The North island is the largest; a mile in length and half a mile wide. In 1862 the South island was examined, when no portion of the huano had been touched. A plain exists on this island covered with the bodies of seals, which, on being turned over, were found to be converted to a large extent into huano; some of the borings gave 105 feet of solid huano. About 1840, the first shipments of this substance were sent from Peru. For years past the quantity annually exported is about 500,000 tons, giving employment to say 700 ships. The net proceeds per annum of huano to the Peruvian government is about three millions sterling. A late survey gives for the quantity still remaining at the Chincha Islands over seven millions of tons, which, at £6 per ton net proceeds, amounts to £42,000,000. The value of the huano trade to the shipping interest alone, averages annually a million sterling. It will be seen by the following that huano exists in other localities on the coast of Peru, and the quantity still there is, in

	TONS.
The Chincha Islands - -	7,000,000
The Lobos Islands - -	4,000,000
The Guanapé Islands - -	3,000,000
Chipana - - - -	500,000
Point Lobos - - -	1,500,000
Huanillos - - - -	2,000,000
Pavellon de Pica - -	3,000,000
Puerto Ingles, &c. - -	1,500,000
	22,500,000

Showing a net value to the Peruvian government of about 138 millions sterling.*

There can be no doubt that there are other collections of huano, exclusive of more ancient deposits, known as Costra or Caliche Huano, something like that of Ichaboe.

The possession of the huano deposits mainly gave rise in 1854–5 to the lengthened revolution of General Castilla against the then president, General Echenique, in which Castilla was successful; but it threw the whole country into ferment and war. In the province of Tarapacá, I was present at two fights of the opposing parties, in which blood was spilt. The use of huano in Europe and the United States, independently of increasing the yield of crops, it is asserted has even tripled the value of some sorts of lands. It may be said to be the political ruler in Peru, and in the "good old times," would have been canonized as a saint. The Peruvians have a saying, that although the huano is no saint, yet it works miracles in more ways than one.

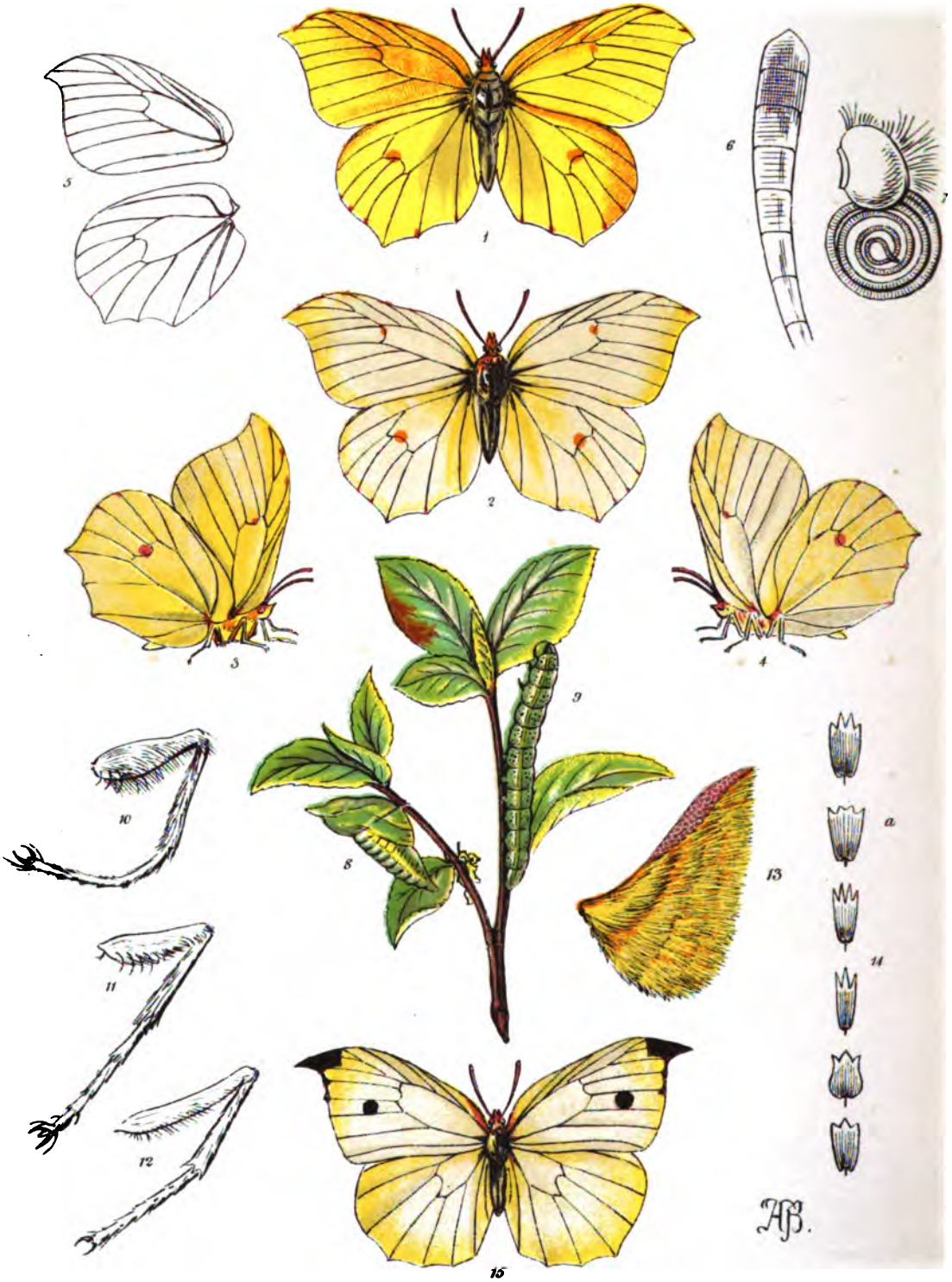
But for the excessively desert character of the country, there would be no salt, nitrate of soda, or borax. Some 125,000 tons in 1865–6, of refined nitrate of soda (selling in Europe at £12 to £13 per ton), and a quantity of borate of soda and lime is annually (the borate by special permission of the government) shipped, principally to England, from the province of Tarapacá. Mr. George Smith, the early originator of the nitrate of soda trade, has calculated that the nitrate of soda ground covers some fifty square leagues, and a hundred pounds weight being allowed for each square yard, there still remain sixty-three millions of tons on the ground; and at the present rate of consumption, there is a stock for about 1,000 years.

Iquique, the principal port of shipment for this valuable article, when I first knew it in 1825, was composed of a few fishermen's huts. For some years past it has had a population of some 5,000 inhabitants, and has lately, in consequence of its great commercial importance, been declared a *ciudad*, or city. This spot is a complete desert; the water drunk there is distilled from that of the Pacific Ocean; still every comfort and even luxuries are to be obtained. There are two churches, a theatre, club, newspaper, and a good circle of society.

The coast valley of Cañete yields sugar to the amount of £200,000; Pisco and Yca, 70,000 jars of brandy, 10,000 barrels of wine, 800,000 pounds of cotton, and 40,000 pounds of cochineal. Other valleys in the south produce sugar, wine, olive oil, &c. The northern valleys yielded much cotton, and more was expected in future. I will not particularize here the produce in silver of such mines as Pasco, the exports of alpaca and sheep wool, hides, &c.

In 1859, the Peruvian budget showed a revenue of 21,893,180 dollars (five dollars to the pound sterling); of these, 15,875, 352 were from the sale of huano. The expenditure was 20,387,745 dollars, showing only a surplus of 1,505,435 dollars; the army and navy of a state (containing only 1,880,000 souls, including all the Indians), alone requiring 11,877,306 dollars! This was under the military President, Castilla. The customs exports of Peru for 1862 amounted to 22,492,259 dollars, but 26,000,000 is nearer the truth, as there is still some smuggling of precious metals out of the country, to escape paying duty.

* See *Illustrated London News*, February 21, 1863, for some admirable drawings, from photographs, of the Chincha Islands.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The traveller who may arrive in Peru during the hot summer months, will be astonished at the aridity of the coast. He will see a few shrivelled Tilandsias, some species of Cacti, Cardo Santo (*Argemone Mexicana*); and if the sea-shore is explored, the horny Salicornia, some species of Salsola, Sesuvium, and the long Macrocystis Humboldti or Sargasso. The great desert line of coast is cut here and there with valleys and ravines, in which the traveller may rest, his sight having been nearly blinded by the reverberation of the sand upon tropical vegetation, and where he can assuage his thirst with cooling fruit of the Granadilla (*Passiflora lingularis*), the orange, and other fruits, and repose his limbs under the shade of the plantain tree.

I have adverted to the more interesting objects connected with the Peruvian deserts; but there are unpleasant occurrences, as the earthquake and the *terciana* or ague.

The volcanoes, dormant and active, are mostly on the western or Cordillera side of the coast; these are one of the great signs of subterranean chemical action. The other is the terrible earthquake, resulting from the underground explosions, causing the destruction even of whole cities; some, situated on the sea-coast, as Callao, were once washed entirely away by the waters of the Pacific rolling in a gigantic earthquake wave, which, on retiring, swept all into the deep. The city of Arequipa has been totally destroyed five times, from 1540 to 1784.

The next drawback to a residence in the valleys of the coast of Peru, is the *terciana* or ague. I nearly became a victim, having caught a bad sort called the *atabardillada*, at Pica, in the province of Tarapacá, at over 4,000 feet above the level of the sea. The treatment then (1826) was doses of powdered Peruvian bark in old wine, and lemonade. The chills and fever would in time disappear, but occasionally fatal dysentery would follow. Quinine was not then known in that region.

Dr. Hamilton, who practised in Tacna as early as 1825, says he paid, as the wholesale price at Lima of adulterated sulphate of quinine, £7 the ounce. He mentions that the desert portion of Peru is free from *terciana*, but it is found in all the valleys and ravines where there is water and where there is vegetation; for at all seasons vegetable matter is more or less in a state of decomposition there. The vegetable malaria is more concentrated and deadly in some localities than others. He had to remain with a party of eight, a day and two nights in the valley of Tambo; seven took the dreaded fever, volatile organic matter being conveyed into the system through the medium of the gastric, respiratory, or other organs.

Terciana is not endemic on the high table-lands, but appears again on the eastern slopes. For many years past quinine, in its various preparations, has been administered in Peru, with its well-known salutary effects.

At Tacna 18° S., 1,400 feet above the level of the sea, and a little inland, the mean temperature is about 64° Fahr.; the greatest heat in the shade is 90°. On the sea-shore, in latitude 20° 12′, the winter mean heat is from 62° to 67°; in summer 72° to 78°, but mid-day in the sun it is scorching.

A short time after the foregoing was written, a Spanish fleet stealthily took possession of the Chincha Islands, on account of some old and trifling claims on Peru, and ere the Spaniards gave them up, got nearly a million sterling out of the Peruvian government.

The Spaniards next went to Valparaiso, but finding the Chilenos would not give them the satisfaction they required, bombarded it, a defenceless city, destroying in particular all the public buildings. The Spanish fleet then sailed north to Callao in May, 1866, in the hope of destroying that port and its fortifications; in this, however, they got very much the worst of it, the more disabled portion running off to the Philippine Islands, the other portion round Cape Horn. Peru and Chili are still at feud with Spain, and Spain will have to apologize to those Republics, ere peace can be re-established.

OUR BRITISH BUTTERFLIES:

THEIR STRUCTURE, HABITS, HISTORY, AND FOREIGN RELATIVES.

By Arthur G. Butler, F.Z.S., Assistant, Zoological Department, British Museum.

Part II. *Rhodocera Rhamni.* The Brimstone.

THIS delicate butterfly, the second on our lists, is, wherever it occurs, one of the most common of British insects; it is by no means rare upon the Continent, and may be met with in great numbers in some parts of India. Few insects can be more attractive to the eye than this species when upon the wing; its flight, though rather more rapid and powerful, very much resembles that of the well-known *Pieris Brassicæ*, or common white butterfly of our gardens; like it, the Brimstone has a habit of repeating the same regular journey over and over again for hours together, therefore, though the collector should miss his insect the first time it passes him, he need not despair of eventually capturing it, if he but remains in the same place for a few minutes. Of this fact we had practical proof the very first time that we saw the insect alive, and in the neighbourhood of London.

The Brimstone is at its prime towards the middle of August. In order to see it to perfection it is

necessary to leave the noise and bustle of town, and choosing, if practicable, a clover field in the vicinity of some large wood, we are not long in detecting its golden glories upon the wide-spread purple carpet, for in such spots as these our yellow friend especially delights.

What luxury, whilst scenting the delicious perfume of the clover, to watch those sulphur-coloured fairies fluttering from flower to flower in search of their sweet food!

Having taken our fill at the Brimstone's restaurant, we may enter the wood where we again perceive these butterflies in pursuit of beauty. The charm of the female of this species depends upon its greater delicacy of colouring, the male having the advantage in richness of hue.

The males far exceed the females in number (this seems to be usually the case with common species), and consequently the competition in matrimonial affairs is something dreadful. We have taken seven Brimstone butterflies at one stroke of the net, and six of them proved to be males. The genus *Rhodocera*, to which this species belongs, contains a great variety of beautiful forms, in all of which the prevailing colour is yellow. We have figured one of the most curious, the *Rhodocera* (*Gonepteryx*) *Wallichii*, of Doubleday; it is a native of North India, and by no means a common insect. A figure of this species, showing both sides of the wing, will be found in the "Proceedings of the Zoological Society" for 1865, under the name of *Gonepteryx Urania*. The eggs of the Brimstone butterfly are of a conical form, with ribs sculptured on the sides. The caterpillar, when fully grown, is green, finely speckled with black, and with a pale lateral line; it may be found upon buckthorn (*Rhamnus catharticus*) and alder buckthorn (*R. frangula*). The curiously-shaped chrysalis is suspended by means of a central girdle and a web of fine silk at the extremity of the tail; its colour is bright green varied with yellow.

The only well-known variety of the Brimstone is found in the south of Europe, India, Madeira, &c.; it differs from the common form in having the greater portion of the front wings suffused with orange. It has, however, been described as a distinct species under the name of *Cleopatra*, but the fact of its having been bred from the same batch of eggs with *R. Rhamni* has effectually proved its identity with this common species.

By reference to our plate it will at once be seen that the arrangement of the veins upon the wings of this insect differs considerably from that in the Swallow-tailed; the nervules at the front margin (*costa*) of the upper wings being all widely separated, whilst in *Papilio Machaon* they lie close together. Again, the termination of the cell* is in this species concave instead of convex, but a careful eye will readily detect these and many other points of distinction between the two insects; so we need not enter into a more detailed description of them here.

The scales are somewhat variable in shape, but not nearly so much so as in the preceding species; this may be partly owing to the uniform colouring of the insect. The legs are short, hairy, and thickly clothed with scales; as in the swallow-tailed, they are all made use of in walking.† The antennæ (horns) are flat, and in form something between a cricket-bat and a canoe-paddle; the annulations are not very distinctly marked and are rather wide apart. The proboscis is black and flattened; it coils up very much like a watch-spring, and is protected by a pair of moderately large palpi, which when strongly magnified, form beautiful microscopic objects; they are clothed with long yellow scales, excepting at the upper outer margin, where the scales are short, and of a blue-grey colour, varied with red points.

The caterpillar of *Rhodocera Rhamni* may be found from May to July; the perfect insect leaves the chrysalis during the following month, and may be met with until towards the end of October, when it hybernates, and appears again in February, the females then continuing until May. The males, if taken in the spring, are frequently so much shattered and chafed, that they are utterly useless as specimens for the cabinet, although they may still be of value to cut up for microscopic objects. This beautiful insect is common and generally distributed in the south of England; it is scarce in the midland counties, and does not occur in Scotland.

Explanation of Plate.

Fig. 1. *Rhodocera Rhamni* (male).
" 2. " " (female).
" 3. Underside (male).
" 4. Ditto (female).
" 5. Wings denuded of scales, to show the veining.
" 6. Part of antenna, magnified.
" 7. Proboscis, or tongue, attached to part of head.
" 8. Chrysalis.
" 9. Caterpillar on food-plant.
" 10, 11, 12. Legs, magnified.
" 13. Palpus, magnified.
" 14. Different forms of scales.
" 14*a*. Commonest form of scales.
" 15. *Rhodocera Wallichii* (Doubleday, North India).

* The large clear space from which most of the veins branch off.

† In several large families of butterflies, the prolegs are only rudimentary.

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NOTES ON THE EARLY HISTORY OF ENGRAVING.

I. WOOD-ENGRAVING.

IT may not be too much to say that of all the important discoveries and inventions which have marked intellectual progress that of engraving is entitled, all circumstances considered, to the first rank in general estimation. As a vehicle of design it claims precedence, in point of utility and influence, over painting itself. In the latter art we have only one picture for each laborious effort of the artist; but when the engraver has performed his work, copies almost without limit may be taken from it, to spread their influence far and wide, and through countless ages of time. For prints upon paper are more durable than paintings, whether upon pannelled walls or upon canvas; and their value, as preserving the lineaments of the great art-products of every school and age for a distant posterity, cannot be over-estimated. What the world has lost of the teachings of ancient Art for want of this vehicle will at once be understood and acknowledged. Whilst some fragments of the sculpture of the Greeks still remain—at once the marvel and the instructors of a remote age—achievements of theirs in painting have been entirely lost to us; whereas, so far as design and composition are concerned, these might have been preserved for our delight and edification had the process of engraving been then known.

M. Monier, painter to the King of France, and professor of painting and sculpture in the Royal Academy at Paris, in his "History of the Arts," published towards the close of the seventeenth century, remarks upon the important influence which the multiplication of works in painting, sculpture, and architecture had upon the revival of the Arts in countries which were not, like Italy, stored with great original examples of Art, ancient and modern. "Engraving," he says, "has conferred the same advantages upon painting as upon architecture, and has given solid instruction to several painters. This may be remarked of the prints of Marc Antonio, engraved after the designs of Raphael, which have taught the true manner of designing to several very considerable painters. By the help of those prints, for instance, the illustrious Poussin made great progress when in Paris as a youth. It was here this great painter so happily imitated the style of Raphael and the ancients." Another example of the kind may be cited in our own Reynolds, who was first incited to the cultivation of the arts of design by some prints which he employed himself in copying. But the influence of Italian Art throughout Europe, more particularly in England, France, the Low Countries, and Germany, through the means of engraving, is very striking to all who study the history of the various schools of Art.

It is not, however, in the reproduction and preservation of works of design that the art of engraving presents its highest claim to our recognition and gratitude. Wood-engraving was early applied to the production of books of history, and of instruction in religion, and other branches of knowledge, printed from blocks, and consequently called "Block-books." The blocks themselves, before many years elapsed, suggested the employment of moveable types, the most essential condition of the art of printing, properly so called. In illustration of the momentous results which have attended this invention, it may suffice to say that the first Bible printed from moveable metal types appeared in 1450; and that about seventy years afterwards the spirit of inquiry thus promoted had given to the Reformation the form and substance which were to insure its practical and enduring effects.

Speaking in a general sense, engraving may be said to be of two kinds,—Xylography, or Wood-engraving, from ξύλον, wood; and, Chalcography, or Copperplate-engraving, from χαλκὸς, copper. The distinctive difference between the two is that in wood-engraving the lights are cut away, leaving the lines forming the design in relief; whilst in copperplate-engraving the lines composing the design are incised, leaving the surface untouched on those parts which are to remain white on the paper. The "working off," or printing, in the two cases necessarily differs also. A wood-engraving is worked at an ordinary printing-press, like the type of a book, the ink being passed over the relief surface, and afterwards impressed upon the paper; whilst in the copperplate the ink is rubbed into the incised lines, and then, by means of a roller press, transferred to the paper. Steel-engraving is but a modification of copperplate, the object of employing the material in question being its superior hardness, and its capability of giving a greater number of impressions than copper.

Of the two processes, wood-engraving is the more ancient, the date of its origin being a matter of dispute, which has formed the subject of many a ponderous tome of antiquarian lore. Down to a comparatively recent period, the opinion generally received by that class of writers who are content to copy without inquiry whatever comes readiest to hand, was, that the art of wood-engraving was invented in Germany. In the eighth edition of the "Encyclopædia Britannica," for instance, published so late as 1856, we find it stated, without hesitation or qualification, just as it was stated in the fifth edition of the same learned compilation, fifty years before, that "for this invention it appears we are indebted to the *brief-makers*, or makers of playing-cards, who practised the Art in Germany about the beginning of the fifteenth

century," adding in a note, "such playing-cards, however, were in use in Germany" (the writer does not state whence obtained) "as early as the year 1275."

To those who at all consider the state of anarchy, darkness, and misery which prevailed in Germany during the whole period of the Middle Ages (a state of things which compelled the Hanseatic League to establish itself, in order to afford points of refuge for the ordinary interests of trade), and the low condition of Arts and Letters, which was the natural accompaniment of this national debasement, it might very naturally occur to doubt the probability of this barbarous region being the seat of an important and interesting invention, calculated in a greater degree than any other to foster the arts of peace, and promote the intellectual advancement of the world. But, apart from the suggestions of common sense, there have been made, within the last half-century, a vast amount of curious researches, the result of which tends to show that the original seat of the art of wood-engraving was very distant from that so unhesitatingly accepted by the "Encyclopædia Britannica;" and that its course was not from the dreary wastes of Central Germany to the more enlightened West and South of Europe, but from the ancient seats of civilization in the far East, through northern Italy, and thence through Western Europe into Germany. In other words, it is contended by recent writers, Papillon, Singer, the late Mr. Ottley, and others, that the use of this invention is of remote date in China and Japan; and that it was through Venice, which, as is well known, carried on an extensive commerce with those countries, and was the medium of communication between them and the commercial ports of the West and North of Europe, that it was introduced amongst us.

On the other hand, in opposition to this view, it has been gravely contended that there is no evidence to show that the Chinese themselves were acquainted with this art as early as the thirteenth century, much less of their having communicated such knowledge to the Venetians.

It has been urged that Marco Polo, in his celebrated account of China, written in 1295, after his return to Venice, makes no mention of this art amongst the many wonders of the country which he dilates upon; and it is urged from this that the art did not at that time exist amongst the Chinese. To this, however, is to be replied that this very silence upon so important a subject would have been unaccountable,—indeed, could hardly be supposed to have occurred,—supposing the art to have been practised in China, and unknown in Venice; but that it may be at once naturally and satisfactorily accounted for on the supposition that wood-engraving was already well known, and commonly practised, not only in China, but in Venice also.

With regard to the early use of this art, or of the appliances which are involved in it, it may be observed, as is very well known, that the printed stuffs of the Chinese are of very remote antiquity, being apparently printed by means of stamps, or blocks of wood, in the same manner as the cotton prints of Europe of a more recent date. Again, the Portuguese missionaries, on their first visit to Japan, in 1549, found the art of block-printing in use there; and Alvaro Sunedo, in his "Relatione della Cina," states that "the Chinese, according to their works, claim to have used the art during a period of sixteen centuries." To conclude with this branch of the case the learned Baron Mearman, in a paper in the "Origines Typographiæ," quotes a variety of passages from a "History of China" written by Abusaid, in Persian, A.D. 1317, from amongst which it may be sufficient for our purpose to cite the following:—"All the books edited by the persons in question" (alluding to those Chinese *savants* whom he names), "are written in a beautiful hand, so that each page may be transposed in the same handsome characters *to the blocks* with which the men of learning are always at great pains to collate their manuscripts, attesting by a private mark on the back of each block their approbation of it. They next commit these blocks, or tables, to the *best engravers*, and finally complete the whole by numbering the pages." The Persian author then goes on to describe the systematic manner in which these blocks were preserved in cases under seal; which would argue it to have been an old-established practice, and not one of recent adoption.

But, indeed, the art of taking impressions in black or coloured inks from seals, or stamps, engraved for the purpose, by way of authenticating deeds, and, amongst the Chinese, paper-money itself, is unquestionably of the very highest antiquity in the East, and was probably derived thence by the Romans, amongst whom we have abundant examples of the like kind. In later times we find Charlemagne and the Frankish monarchs pursuing the same practice, with seals or stamps, which were probably first made of wood. It seems difficult to suppose that the obvious uses of such an appliance should have been through a long series of ages in great manner overlooked, and that it should all this while have been restricted to the sealing or stamping of documents.

Having said thus much in support of the claims of the East to the first use of this art, the next question that arises is how it found its way from thence into Europe. The probability is, as has been already suggested, that it was imported through the then great emporium of Oriental commerce, Venice, whence it afterwards found its way into Central and Western Europe, through the Low Countries, and the ports of the Hanseatic League.

We have already observed that in all probability the art was known and practised both by the Chinese and the Venetians in the time of Marco Polo, at the end of the thirteenth century; and what goes a great way to support this impression, so far at least as Venice is concerned, is a very curious decree of the Venetian government, which was published, printed from an engraved wooden

block, in 1441, setting forth "the decay into which the art and mystery of making cards and printed figures had fallen," and, for the restoration of this "art and mystery," and the encouragement of native talent, prohibiting the importation of "playing-cards and works of art printed or painted on cloth or paper." It may be not unreasonably insisted that an industrial art of this kind could not have been invented or first introduced, have attained to a considerable amount of remunerative practice, and have eventually fallen into decay so signally as to call for Government intervention for its protection, except in a series of years measured by generations, if not by centuries. Let us hazard the conjecture that the first cards used in Germany, say, in 1275—the earliest date named in the note of the "Encyclopædia Britannica,"—were imported from Italy; that the Germans afterwards commenced making them for themselves, some of which in course of time found their way into the North of Italy, and were the cause of exciting the jealousy of the Venetians, which manifested itself in the above-cited decree of 1441.

As it tends to support the claim of Italy to priority over other European nations in the use of this art, the account given by Papillon, although unsupported by corroborative testimony, is deserving of attention. Accepting his statements as authentic, they establish an instance of engraving on wood as early as the year 1285. Papillon begins his narrative by telling us that in 1758, when employed in the way of his trade in papering the walls of a room in the house of a Swiss officer whom he names, at Bagneuse, near Mont Rauge, he was shown by the latter a volume containing nine wood-engravings, representing events in the life of Alexander the Great (which he minutely describes), the work of a brother and sister of the name of Cunio, and which were dedicated to Pope Honorius IV., who occupied the Papal chair during the years 1284-5. The story of these young amateur artists, as related in a MS. statement which had been inserted in the volume in question by the Swiss officer, its possessor, is rather a romantic one. It appears that they were the twin children of the son of a certain Count de Cunio, by a Veronese lady allied to the family of Honorius IV., whom that young nobleman had married clandestinely, and contrary to the wish of his friends. This marriage was annulled, and the husband was compelled by his father, the Count de Cunio, to espouse another lady; but the twins were nevertheless brought up and carefully educated in his house, their stepmother loving them as if they had been her own children. Already at the age of thirteen they were highly accomplished in Latin, geometry, music, and painting; at the age of fourteen the boy went with his father to the wars, where he was wounded, and knighted by his father on the field of battle. It was after his return that, jointly with his sister, Isabella, he commenced those designs of the actions of Alexander, engraving them on wood, and of which he presented copies to Pope Honorius and other relatives. He again joined the army, and was killed in battle—his sister dying of grief shortly afterwards at the age of twenty. Such is a brief abstract of the narrative given by Papillon, as copied by him from the written statement in the book itself. "Some years afterwards," concludes the writer of this statement, "the generous Count de Cunio gave this copy of the 'Actions of Alexander,' bound as it now is, to my grandfather; and I have caused the leaves to be inserted, upon which, by my orders, this history was written."

It is certainly unfortunate that this curious volume, which Papillon states he saw in 1758, has not been since discovered by any one who has written on the subject; and the whole story of it has consequently been denounced as apocryphal by many writers who appear not to have studied the evidence in the matter with sufficient care. Strutt and Bryan, for instance, when writing the prefaces to their respective dictionaries of painters and engravers, appear to have read Papillon's narrative so curiously that they charge him with giving it all upon the hearsay evidence of the Swiss officer, and never having seen the book himself; whereas he clearly states that he had seen the book and closely examined it.

Heinecken, who espouses the claim of Germany to the invention of wood-engraving, contemptuously dismisses Papillon's statement as utterly unworthy of credit, and argues upon the names and dates mentioned in it, to prove its impossibility. These arguments, however, have since been investigated at length by Zani and Ottley ("Origin and Early History of Engraving"), and the result of their researches is to establish the existence of all the principal persons mentioned by Papillon in his narrative, together with many corroborative circumstances; and they consequently come to the conclusion that the story of the works of these Cunij is true.

With the exception of the playing-cards of Venice, and the illustrations of the achievements of Alexander the Great by the gifted Cunio, we have no account, even traditional, of the early practice of the art of wood-engraving in Italy. It is to the Western and Northern states of Europe that we must look for its application to nobler uses; and here again, in apportioning the honours of the achievement, authorities are at variance. Authorities of the class to which the "Encyclopædia Britannica" belongs tell us very confidently that whilst we are indebted to the *brief-makers*, or playing-card makers, of Germany for the invention of wood-engraving, we are indebted to them also for applying their newly-discovered art to the production of the block-print books, which early in the fifteenth century came to take up the ground previously occupied by the ancient missal, with its artistic miniature decorations. But the late Mr. Ottley dissented from this position; considering that, although the arts of painting and engraving may have been practised throughout Germany long previous to the commencement of

the fifteenth century, "the honour of having first contributed to their improvement belongs more especially to the artists of the Low Countries, and others who inhabited the western countries of Germany."

The earliest wood-engraving at present known, having a date, is one discovered by Heinecken, in the Chartreuse, at Buxheim, near Meiningen, one of the most ancient convents in Germany, and on that account called the "Buxheim Print." It represents "Saint Christopher carrying the Infant Jesus across the Sea." This print bears an inscription in Latin, with the date 1423. On being brought to England it became the property of the Earl Spencer. Another very old block-print—supposed to be older than the Buxheim print—in the possession of the same noble lord, is one representing St. Bridget writing, and from internal evidence would seem to have been executed by an artist of the Low Countries, in the latter end of the fourteenth century.

The same authority considers that some of the block-books may be of as early date as 1420; and he argues that "those of them whose pretensions to antiquity are not unattended by some claims to our approval as works of art, appertain more properly to the ancient schools of Holland and Flanders than to those of Germany, an opinion, indeed, which a comparison of some of the best of these with others professedly and indisputably executed in Germany will tend not a little to support." He then mentions three block-books which he considers entitled to this distinction, namely, "The Poor Man's Bible" (*Biblia Pauperum*), the Book of Canticles, and the *Speculum Humani Salvationis*, or "Mirror of Human Salvation," and the illustrations of these he considers to have been all by the same artist, and to have been produced in the order in which he names them. But the history of some of these block-books, with reference to the many important questions they tend to elucidate, would of themselves fill an article for which, perhaps, we may one day find space. Meantime to suggest the connecting link between the block printing and printing by moveable types, to which we have already casually alluded, it may be stated that the "Speculum Humani Salvationis" is remarkable as having the text of one edition printed in great part from moveable characters, and in others entirely so; and that it was so printed in the edition issued by Laurence Coster, of Haarlem. The question of the first use of moveable metal types—whether by Guttenberg, at Mayence, or Coster at Haarlem—is still a matter of fierce dispute.

THE ARCHITECTURE OF INDIA—THE BUDDHIST.

By William Simpson.

THERE is some uncertainty as to whether Brahminism or Buddhism is the oldest religion of India; there may have been a previous religion: one more allied to the present Brahminical form of worship, than to that founded by Buddha; but if there was, no architectural remains of it are left. There are some remains, said to be Druidical; and there are some to which the word Cyclopean is applied. With the exception of these, and they are but few, the architectural history of India begins with the era of Buddha, which is now generally accepted to be B.C. 543.

That is the date of Buddha's death; the event took place at Kusinara, a town supposed to have been somewhere to the east of Benares. After the incremation of the body, the ashes were divided among seven princes, who had collected armies in order to fight for the sacred remains; for they considered that there "was nothing so precious in the world as the relics of Buddha." Over each of these relics Dagopas were erected, and an eighth was built at Rajagaha over another relic. In this we have the most important practice of Buddhist worship—the adoration of relics; and the most important feature of its architecture—the erection of Dagopas to contain and preserve them. There are some relics of Buddha which were got by supernatural means; such were the eight hairs which were enshrined in the Rangoon Dagopa, in Burmah; and the same may be said of the celebrated relics in Ceylon, of which the most famous is the tooth of Buddha. This is now preserved by our government, and guarded as the Palladium of British power in the island; it is kept in the city of Kandy, the capital of Ceylon.

A Dagopa is also called a Chaitya, but they are perhaps better known by the word Tope. This word is identified with those of Northern India from its use by recent writers. In Cabool and the region around Peshawur there are numerous Buddhist remains, which are known by this name. Tope is said to be the same as the Pali Thupo, and the Sanscrit Stupa, a "mound" or "tumulus." The most ancient of these are exactly like an inverted cup; the more modern vary considerably in shape. The Sarnath Tope, near Benares, rises high like the spire of a Hindoo temple; some are bell-shaped; and the great Dagopa at Rangoon is like the upper part of a sherry decanter. They are always round; the base may be square or octagonal; but the upper and main part of the structure never is so. The Mahawanso, one of the ancient books of Ceylon, describes the erection of one of these buildings, and it gives what must

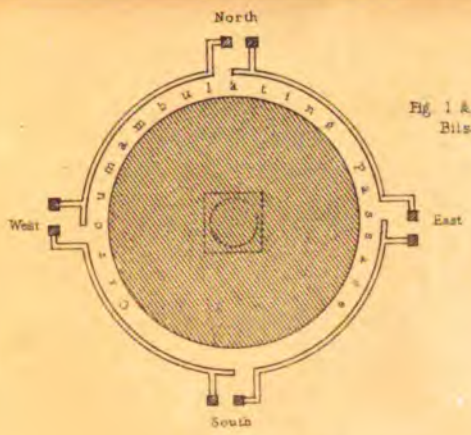

Fig. 1 & 2. Plan and Section Bilsah Tope, Central India.

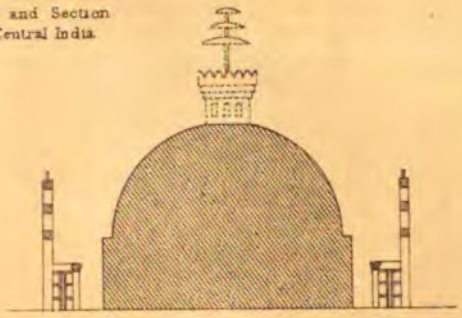

Fig. 5. Dwelling House from Sculptures on Bilsah Tope.

Fig. 4. Eastern Gateway Bilsah Tope.

Fig. 3. Tope from Sculptures on Bilsah Tope.

Fig. 9. Choetam or Tibetan Dagopa.

Fig. 8. Buddhist Railing, Bilsah Tope.

Fig. 6. Thuparamaiya Dagopa, Ceylon.

Fig. 7. Chaitya or Dagopa in one of the Caves of Ajunta.

ARCHITECTURE OF INDIA. BUDDHIST.

seem—in these days of "competitive designs" for public buildings—a very curious manner in which the architect of that period submitted his design to the king. "The bricklayers were assembled by beat of drum; and the Rajah inquired from the architect, 'in what form dost thou propose to construct the Chaitya?' The architect, taking some water in the palm of his hand, dashed it into a golden vessel full of water; and pointing to a hemispherical bubble of air, which stood for a moment on the surface, he said, 'I will build it in that form.'" The drawing of the Thuparamaya Dagopa (fig. 6) will show the form of those erected in Ceylon, and it will indicate how the architect carried out the design which he produced for the Rajah Dutthagamini. The long slender stone pillars, with large capitals, which surround the Dagopa, are peculiar to this design.

The identification of these Dagopas or Topes with the pyramids of Egypt can scarcely be resisted; both are essentially sepulchral in their character; and both are mounds of building covering or inclosing human remains, the only difference being that the external form of one is square and pointed, while the other is circular and dome-shaped. Although there can be no doubt about the greater antiquity of the pyramids, yet these Buddhist remains in India are undoubtedly the more literal descendants of the most ancient type of tombs, that is, the tumulus or mound of earth heaped over the burial place, remnants of which are found all over the world. "In India the Buddhists conformed to the long-established practice of burning their dead, and the tomb became not the receptacle of a body but of a relic. As in mediæval Europe, the sarcophagus became a stone altar. No one can doubt that *the Tope is the lineal descendant of the Tumulus;* but wherever it was an object of veneration by the Buddhists, it was so as containing some relic of some saint, not as a sepulchre covering the mortal remains of either king or priest."*

This opinion of Mr. Fergusson's is confirmed by General Cunningham in his work on the Bilsah Tope; he says, "It appears also that Stupas had been erected over supreme monarchs prior to Sakya's (Buddha) advent, for Sakya particularly informs his disciple Ananda, that, over the remains of a Chakravarti Rajah, 'they build the thupo at a spot where four principal roads meet.' It is clear, therefore, that the Tope or 'Tumulus' was the common form of tombs at that period. In fact, the Tope, as its name implies, is nothing more than a regularly built cairn or pile of stones, which was undoubtedly the oldest form of funeral memento." (P. 11.)

These quotations indicate the very ancient genealogy of this architecture, and its importance as a means of throwing light back on the earliest times, not only of Indian races, but over the other parts of the world where a cairn of stones or a mound of earth was the primitive form of burial.

Dr. Clarke, when describing the vast quantities of tumuli in the southern part of Russia, points out the same identity between them and the pyramid. He says, "whether under the form of a *mound* in Scandinavia, in Russia, or in North America; a *barrow* in England; a cairn in Wales and Scotland, or in Ireland; or of those *heaps* which the modern Greeks and Turks call Tepe; or lastly, in the more artificial shape of a pyramid in Egypt, they had universally the same origin." (Vol. i., p. 277.) From such authorities we may accept as conclusive, that from the mound or cairn came the Tope and pyramid; and very strong evidence could be adduced to show that the dome and spire are only another growth—or perhaps extension of growth—from the same source; the universality of the dome on all eastern tombs is almost enough in itself to identify it with the Tope; this is a tempting subject, but it would be out of our purpose to follow it farther.

It may be worth adding at this point that the elevation of the Birs Nimrod, or Borsippa, given in Rawlinson's "Herodotus," which is now the accepted Tower of Babel, or at least the probable type upon which that Tower was built, is only a variation of the pyramid or Tope.

Near to Bilsah, in Central India, there must have been, in Buddhist times, a vast city, and whose existence is only revealed to us by the ruins of a number of Topes. On a small hill at the village of Sanchi-Khan-a-Kerri, stands what is generally called the Bilsah Tope; it is the central one in this group, smaller ones being scattered about for some miles. It is, speaking roughly, upwards of one hundred feet in diameter, and about fifty or sixty feet in height. The plan and section (fig. 1 and 2) of it given in the plate will convey an accurate idea of this most interesting specimen of Indian architecture. It is about the oldest building in India, according to Cunningham, who thinks that "the Tope was itself in existence in B.C. 443, that the massive stone railing was erected in the reign of Asoka between 260 and 250 B.C., and that the gateways were erected in the reign of Sri Satakarni between the years 37 and 19 A.D." Its construction was of bricks, with mud for mortar, and an outer casing of dressed stones, the whole being covered with four inches of cement. It is now a complete ruin, covered over with long grass, bushes, and every weed which a tropical climate can produce. From numerous sculptures of Topes on the gateways, as well as from other sources, we know that there would be an erection on the summit, which is now denominated a "tee." This is sketched into the section with dotted lines. A sculptured Tope is given in the plate (fig. 3), and over it is the "triple canopy." A Dagopa from the caves of Ajunta is also given (fig. 6), which shows the Tee and the three umbrellas; they are often represented, as in this last, by figures like an inverted saucer. This is an indication of a later style, all the most ancient preserve the character of an actual umbrella, such as that from the sculpture at Bilsah; garlands hang from the latter, and

* Fergusson's "History of Architecture," vol. ii., p. 478.

between the canopies in the Ajunta one, small angels are carved supporting them. There is a difference between these two Topes in the way the umbrellas are arranged. The dotted lines over the section of the Bilsah Tope (fig. 2) will show how they may have been arranged over it. The meaning of these umbrellas will be best understood from the following quotation from the Mahawanso, on the dedication by the Rajah Dutthagamini of the Maha-Thupo in Ceylon. He said, "thrice over do I dedicate my kingdom to the redeemer of the world, the divine teacher, the bearer of the triple canopy; the canopy of the heavenly host, the canopy of mortals, and the canopy of eternal emancipation." These words manifest the deep signification of the umbrella as a symbol of Buddha. This importance is also indicated by its universality as an emblem. It was used in Thesmophorian and Eleusinian mysteries, and in the rites of Bacchus; Hesychius says under the word σκιάς, "a vine, a convex tent, a pointed umbrella under which Bacchus sits." As the dome of St. Peter's may be allied with the Tope, so the baldaquin may be possibly connected with the "chattar" (umbrella), which is still one of the insignia of royalty in the East.

In the ground plan of the Bilsah Tope (fig. 1) it will be seen that there is a passage all round it, with a gateway at each of the cardinal points. The passage is formed by a very peculiar structure, which is now known as the "Buddhist Railing;" it is evidently founded upon a previous wooden construction, and its peculiar form is used as an ornamental feature, not only on the sculptures of the Bilsah Tope itself, but it is to be found in all the most ancient of the Buddhist rock-cut temples; in fact, the use of this "rail" as an ornament is in itself a proof of a certain antiquity wherever it is found. In the present case it stands as a piece of architectural construction, and it is the only example of it known in India: in every other place it is found merely as a sculptural ornament. It is formed of upright stone posts eight feet eight inches high, over which there are laid long stones, about two feet four inches in depth; between each of the upright posts there are inserted three horizontal stones, or slabs, convex in section; these have sockets cut for them in the posts, exactly as if they were pieces of wood (see drawing, fig. 8). This mode of mortising could never have been adopted by people with stone as their building material; while it is exactly the way in which such a wooden structure would be formed.

The gateways are also erected after a wooden style of construction; they are formed of square pillars about eighteen feet high; this supports three lintels which extend beyond the pillars, and between these lintels are a series of small pillars which act as supports; the lintels are curiously curved upwards in the middle (see drawing fig. 4), and although they rest upon the supporting pillars they are mortised into each other as if they were blocks of wood. The whole of these four gates are carved all over; there are symbols of Buddha, such as the wheel, and the sacred trees; Topes are also to be found with people worshipping. Some of the ordinary avocations of ancient life are represented, and these are unchanged as to utensils or mode of performance even in the present day, showing how permanent are the manners and customs of the East.

The purpose of these gateways and the passage is an important point in Buddhism. It was a ceremonial part of their worship to circumambulate one of these buildings, and they did so muttering prayers and holy invocations; this was done in honour of Buddha, because he is a "Chakravarta-Rajah," or *King of the Wheel;* this is also the explanation of the "Praying Cylinder," which the Buddhists of Thibet whirl as a mode of prayer. The wheel was also called the *Wheel of the Law*, because it evolved, or revolved, the faith (dharma) of Buddha, and it was symbolical of the movements of the heavenly bodies. This circumambulation is also performed by the Mahomedans round the Caaba at Mecca. As the followers of the prophet have no explanation of this ceremony, it may perhaps be a remnant of the old Buddhist ideas, and this is confirmed from the fact that there was a system of pilgrimage from India to Mecca, long before the time of Mahomet.

From the non-discovery of relics in the Bilsah Tope, Cunningham arrived at the conclusion that it was dedicated to the supreme Buddha. He says, "A Tope is properly a religious edifice, dedicated emphatically to Buddha—either to the celestial Adi Buddha, the great First Cause of all things, or to one of his emanations, the Mánúshi, or mortal Buddhas, of whom the most celebrated, and the only historical one, is Sákya Muni, who died B.C. 543. In the Topes dedicated to the celestial Buddha—the invisible Being who pervaded all space—no deposit was made; but the Divine Spirit, who is 'Light,' was supposed to occupy the interior, and was typified on the outside by a pair of eyes, placed on each of the four sides either of the base or of the crown of the edifice. Such is the great Chaitya or Tope near Kathmandu, in Nepál, dedicated to Swayambhunáth (the Self Existent), in which the eyes are placed on the upper part of the building." ("Bilsah Tope," p. 7.) It was only the great Tope at this place which was dedicated to the "Divine Spirit;" the others, of which there are many, contained vases which, from their inscriptions, preserved the ashes of holy men. One of these had an inscription stating that it was the "(Relics) of the emancipated Kasyapa Gotra, the missionary to the whole Hemawanta (Himalays)." The Buddhists were great propagandists, and there are other Topes at Bilsah which preserved the remains of men who had earned a holy reputation as missionaries to the Himalays. In sending missions they took effective means to accomplish their purpose: they did not send a single person, but sent a sort of colony—a whole body of monks. It was thus that they converted Cashmere, and when they had attained their purpose there, a similar regiment of propaganda were pushed on to Thibet, and converted that

country. It was by similar means that Ceylon was converted. The word "emancipated," in the inscription, means that the individual had attained to Nirvana, or final absorption into Buddha. This is the Buddhist idea of ultimate bliss, because it frees or emancipates them from the pains of birth and existence.

It was the belief in re-birth, and the desire to be emancipated from such liabilities, which led to asceticism and monasticism. The numbers who devoted themselves to a holy life seem to have been very large—"the land glittered with the yellow robes," such being the colour worn by the Buddhist monks. They had places to live in together, called "Viharas," of which no more than one or two fragments only are left in India. The most important remains of this kind of building are at Anuradhapoora, in Ceylon, and are called the Maha Lowa Paya, or "Great Brazen Monastery." It was covered with a roof of brass, and probably this was gilt. There are only a few upright granite pillars now standing, and upon them stood the Vihara, built in nine stories of a pyramidal form. Fergusson is inclined to the idea that this must have been the original style of building from which the architecture of southern India took its rise. To it, for instance, we may trace the high, many-storied temples in the form of a pyramid of which the gateway at Madura is a good example. This is confirmed by some of the sculptures on the gateways at the Bilsah Tope. (See Plate, fig 5.) It seems to represent an ordinary house of the time, and we may accept it as figuring the style of the domestic architecture of the period. Certainly no dwelling is built in India at the present day in the least resembling the one on that sculpture. But if any one will compare it with the details of the temples of southern India, a very great resemblance will be seen, particularly in the circular and oval form of the upper windows. This was evidently built of wood, and it is the type from which this peculiar form, so common in all southern architecture, is likely to have had its origin. The whole of the house in the sculpture was evidently of wood; under the windows, where the man and woman are looking out, is the Buddhist railing, which is the great feature of the period. This house—small fragment as it is of the building of that time—renders Mr. Fergusson's conjecture highly probable, that the "Great Brazen Monastery" was erected in a similar style, and that the architecture of southern India is the descendant of this manner of building.

There is only one other species of Buddhist architecture of which it will be necessary to take notice in this article—that is, the old Lâts. They were erected by Asoka, about the middle of the third century, B.C. Asoka had embraced the Buddhist faith, and he put up these pillars to contain the declaration of Buddhist faith, which is called "Dharma." They are found in many places of India, but the best known are those in the fort at Allahabad, and in the Purana Keela at old Delhi, now called Feroze Shah's Lât. They are tall, slender, round columns. The word lât means *staff*, which exactly describes these pillars. They were often surmounted by the figure of a lion. As the Tope led us back to the mound or cairn, these columns lead us also back to the primitive time when it was the custom to set up a stone, and write upon it all the words of the law. This was the practice in the time of Moses, and it can be traced through all the nations of antiquity.

Mr. Ruskin refuses to consider iron as one of the materials of architecture, but although inclined to agree with the principle, we must in the present case refuse to be guided by it, so that we may be able to include the celebrated iron lât at the Kootub (the ancient Delhi) under the term architecture. Delhi (the word comes from *dil*, the heart) claims, like Delphi, to be the *terræ umbilicus*—the centre of the world, and it is believed by the people of India that this iron pillar is the spindle upon which the world revolves. It is a tall shaft, not less than twenty feet high, fixed into the ground; it is surrounded by the remains of an old temple, said to be Hindoo; but the capital on the top of the lât clearly indicates that it is as old as the Buddhist period—possibly even older; and, if so, it becomes the oldest architectural fragment in India. The main point in this iron pillar is, that its claims are so similar to those of Delphi, Jerusalem, and Mecca, all of them being called the "centre of the earth." This is generally explained—at least, in the case of Jerusalem—that it was very near the centre of the then known world; but a more likely explanation would be, that they were all centres of a religious system—they were centres to turn to in prayer; Jerusalem and Mecca are so to this day. By thus giving a religious and symbolical signification, we give a more reasonable character to the title which such places claim.

In Ladak, at the present day, the Buddhists, or Lamas, build Topes, and in the villages they seem often to be more numerous than the houses of the living. In the language of that country, they are called Chock-Tain and Dung-Tain, words which mean "holy receptacle," and "bone-holder." (For the form of these erections see Plate, fig. 9.) They also build a very peculiar erection, called by them a "Manie." This is one of Buddha's many names. It is in the form of a dyke; in section it might be about ten feet square, the top being pointed like the roof of a house; in length, they vary from a few feet to a quarter of a mile. The whole of the upper surface is covered with flat stones, upon which is inscribed the celebrated mystic Mantra, "Aum Mani Padmi Hoong." The Lamas engrave these stones, and pious people buy them, as an offering to Buddha, and place them on these Manies. On the tops of hills, and particularly on the highest points of passes, they erect cairns of stones; these they also call Manies. The stones are thrown together, just like the cairns on places where a murder or unusual death has taken place in Scotland. Into these stones they insert pieces of wood, to which they attach small flags or banners, with prayers written upon them. They are also very fond of putting horns upon them; some are quite

covered with the horns of the various animals of the country. This seems to have been a very ancient practice. There were horns on the altar of the Tabernacle, and Callimachus, in his hymn to Apollo, describes a similar mode of constructing an altar:

"Each day Diana furnished from her toils
The horns of Cynthian goats, her sylvan spoils;
These did the god with wondrous art dispose,
And from his forming hand an altar rose:
With horns the strong foundations closely laid,
And round with horns the perfect structure made."

(*Dr. Dodd's Translation.*)

THE MICROSCOPE.

IN our last number we gave a short outlinear sketch of the progress recently made in the application of the microscope to the arts and sciences, and of the advance made in histological discovery. In the present article we propose to notice some of the more remarkable improvements and inventions in microscopic apparatus and appliances which have of late been described in the pages of our scientific contemporaries. In doing this we shall divide our subject into four or five distinct sections, which, if more or less artificial as divisions, are still useful for the purpose of description. All who are familiar with the compound microscope are aware that it consists of three separate parts—the tube or body containing the object-glass and eye-piece, which together constitute the magnifying apparatus; the stage, or plate of brass, upon which the object intended for examination is placed; and the mirror, which, for ordinary purposes, is concave, and reflects through the object the light which falls upon it either from the sun or from some other source of light, such as a lamp. So much, then, for the general plan of the instrument. Supposing now it be desired to examine an object, it is obvious that the object must be found, and when found must be suitably mounted on a piece of glass before it can be placed upon the microscope stage for investigation. These preliminary remarks, then, show that our subject ranks itself under four distinct heads—(1) that of the microscope itself: its recently constructed varieties; (2) the collection of objects; (3) the mounting of the objects; and (4) the illumination of the objects. Now under these different divisions we shall proceed to discuss the merits of some of the important appliances which have recently been invented by microscopists. First, of the microscopes themselves. Two forms of the microscope are now in very general use—the instrument with the single barrel, technically styled the uniocular, and that in which there is a tube for each eye—the binocular. It would take us too long to go into the principles of stereoscopic vision upon which the latter of these two microscopes depends; but we may mention generally that the advantage of the binocular over the uniocular consists in the fact that it gives the eye a representation of the object in solid relief, whilst the uniocular gives merely a flat picture. The appearance of solidity given by the former being, in great part, due to the circumstance that both eyes are employed simultaneously in viewing the object. Until quite recently, however, the binocular was little better than an interesting toy, for it was impossible to employ it with any but the very lowest powers; but since the application by Messrs. Powell and Lealand of an ingenious modification of Mr. Wenham's binocular prism, the binocular can be used with the very highest powers. We ourselves have examined an object with the binocular microscope with as high a power as the 1-16th of an inch, by the assistance of the contrivance alluded to. The great difficulty which Messrs. Powell and Lealand had to overcome was that of obtaining an image by the whole aperture of the object-glass in each tube of the instrument. This, however, they effected (fig. 1) by interposing an inclined disc of glass with parallel sides, so that one set of rays from the object is transmitted directly through it to one eye, while the other portion of the rays is twice reflected, and thus sent along the second tube to the other eye. It is unnecessary to enter into further details here, as the figure will sufficiently explain the *modus operandi* of this ingenious appliance.

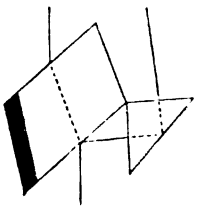

Fig. 1.

Of binocular microscopes for both students and amateurs the best and cheapest is that which has been made by Mr. Collins, of Titchfield Street, for Professor Harley, of University College (fig. 2). This is a fine and solid instrument, and is characterized by a piece of apparatus which saves the observer a great deal of trouble and inconvenience. Instead of the simple drawer containing the prism, Mr. Collins employs an oblong box, one portion of which contains the prism and another a part of the polariscope. The second part of the polariscope lies beneath the stage, so that it can at once be brought into play. The advantage which this addition gives Mr. Collins' instrument is this, that without any loss of time an object may successively be examined binocularly, uniocularly, and with the polariscope. Another convenient accessory to this microscope is the sliding bar upon which the two objetives, 1-inch and ¼-inch, are placed. By simply moving them either to the front or back a low power is substituted for a much higher one, or *vice versâ*.

A new class of microscope has recently made its appearance under the various titles of sea-side

microscope, traveller's microscope, pocket microscope, &c., and which has advantages of its own.

Fig. 2.

It frequently happens that the naturalist or the physician requires to examine some objects under circumstances when it is impossible to have access to an ordinary microscope. To provide against such emergencies the instrument referred to has been prepared. There are four separate forms of it. The first we shall describe is that made by Messrs. Baker, of Holborn (fig. 3). When packed in its case, it takes the shape of an average-sized tourist's telescope, and is suspended by a sling which passes over the shoulders. When taken out, three legs unfold from a central pivot on which the tube swings, and form a tripod stand, the larger leg bearing the stage and mirror. It is focussed roughly by sliding the tube as in a telescope; but the finer adjustment is provided for by a screw and spring attached to the central leg. When required to be placed vertically, these smaller legs screw into the instrument and constitute a tolerably firm foot. A second form of this class of instrument is made by Messrs. Murray & Heath, of Jermyn Street, and is shown in fig. 4, where A and C show the instrument in the vertical and inclined position. Mr. Highley, of Green Street, Leicester Square, supplies two distinct varieties of the portable microscope. The first, which we believe he styles the traveller's microscope, is a handsome instrument in form somewhat like Messrs. Baker's. The three

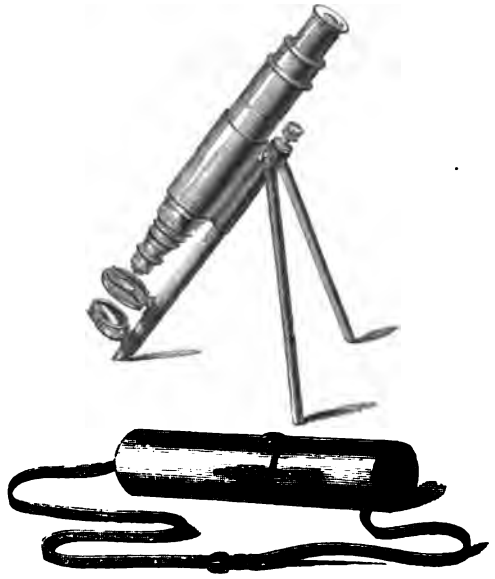

Fig. 3.

legs upon which it rests, however, have this advantage over Mr. Baker's, that they are fastened into a semicircular collar, in which the body of the microscope swings, instead of into the central leg. The object of this is to enable the worker to employ the microscope either in the inclined or vertical position without the trouble of altering the foot. The accessory apparatus supplied with this microscope is of the usual description. To this class also belongs a Liliputian microscope, which Mr. Highley has appropriately named the waistcoat pocket microscope (fig. 5). It is not an instrument which we should recommend for the purpose of research; but it is certainly a wonderful miniature. When packed in its German silver case, it measures about three or four inches in length, and is not more than three-quarters of an inch in diameter. It is provided with an object-glass which divides into inch

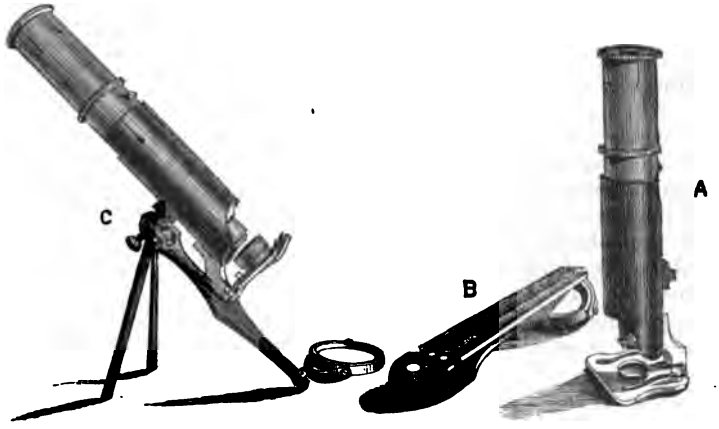

Fig. 4.

and quarter-inch powers. The cut shows its general form; J is the body, B a draw-tube to increase its length, D is the eye-piece, and C is a little animal-

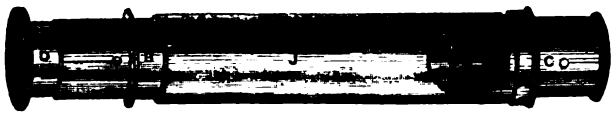

Fig. 5.

cule cage. Mr. Highley has also constructed an instrument which he has termed the "complete

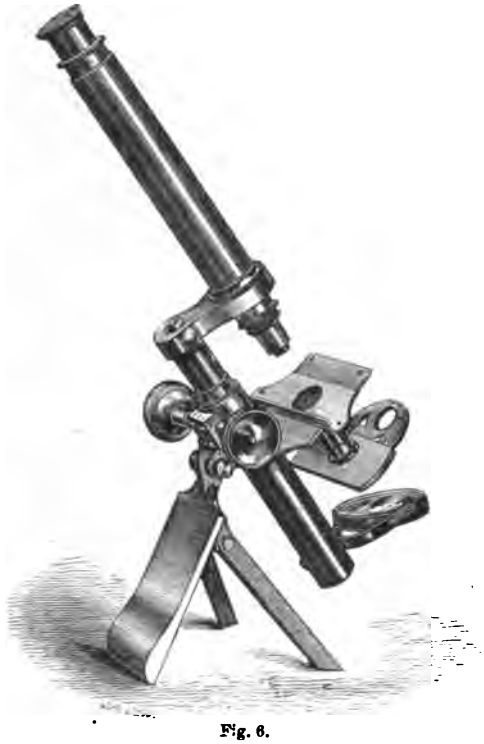

Fig. 6.

microscope" (fig. 6). This is a piece of neat workmanship, and has certain intrinsic merits. It packs into a box 8 inches by 6½, and 4 inches deep, and is provided with a condenser on the Webster plan, and with a polariscope. The application of the latter is ingenious. The ray of light is polarized by reflection, the place of the ordinary flat mirror being taken by what is termed a "polarizing bundle." The analyzer is situate in the body of the microscope.

Of compound microscopes the above are the chief forms lately introduced to the public. In the class of simple microscopes we know of only one novelty. This is the instrument known as "Dr. Lawson's Binocular Dissecting Microscope" (fig. 7). It is intended for the use of naturalists and anatomists, and is somewhat peculiar. Its stage is in the shape of a trough, and is made of gutta-percha. To this the animal or structure intended for dissection is pinned down under water. Beneath the stage is a plane mirror, which reflects light to the object under notice through a small glass plate inserted in the bottom of the trough. The sides of the case draw out and form arm-rests, and the lenses are placed on a sliding horizontal bar, which in its turn is attached to a vertical rod, which has a telescope movement. The top and sides "let" down, and contain the knives, needles, forceps, scissors, &c., requisite for dissection. The lenses are not simply convex lenses, but are portions of the periphery of a large lens, thus preventing all distortion. When a small object—say a worm or the eye of an animal, is dissected under water, all the parts are seen with the aid of this instrument standing out in relief, and magnified so that the operator has no difficulty in recognizing the several tissues, &c. Readers are aware that in the older forms of dissecting microscopes the absence of the binocular arrangement, giving a rather flat picture of the object, renders the difficulty of dissection often very great.

Having disposed of the microscopes themselves, we come now to the second portion of our subject, the new methods of illuminating microscopic objects; and in the first place we may speak of the

Fig. 7.

Fig. 8.

Bocket microscope lamp (fig. 8). This is manufactured by Mr. Collins, and is a companion to the microscope which every microscopist must find of benefit. It consists of a firm circular brass foot, from which rises a solid rod which bears the lamp, condenser, and reflector. The lamp is one of the paraffin kind, but is of such construction that danger of explosion is avoided. The reflector and bull's-eye lens, as well as the lamp, are moveable up and down upon the vertical rod; and are so arranged that when placed in proper position with regard to each other, the whole three (lamp, reflector, and condenser) may be elevated or lowered without much re-adjustment—an immense saving of time for the worker. The illustration will explain the details.

It is usual, when examining transparent bodies, to place between the mirror and the object a combination of lenses calculated to throw a very bright stream of light upon the object. This combination is termed an achromatic (non-colouring) condenser, and hitherto it has been nothing more nor less than an inverted object glass, a very expensive appliance. Lately, however, an amateur microscopist (we believe one of our constabulary), Mr. Webster, devised an arrangement of lenses which not only supplies the place of the old condenser, but give also what is known as dark-ground illumination

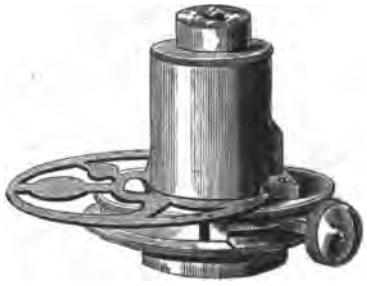

Fig. 9.

(fig. 9). It consists of a double concave lens cemented to "a very deep crossed lens" fixed in a brass tube or body which fits beneath the stage of the microscope. A circular disk provided with curvilinear apertures and "stops" is also attached to it, and when used displays the object in white upon a black ground; thus giving to such structures as the shells of the Foraminifera an appearance of great beauty. This is the Webster condenser as first introduced; but it has been much improved by the addition of Mr. Collins' graduating diaphragm, which we now venture to describe (fig. 10). The ordinary diaphragm supplied with microscopes is a circular plate of bronzed or black metal

Fig. 10.

pierced with a number of apertures of different sizes, and its use is to cut off superfluous light so as to give an object the exact amount of illumination it requires and no more. But it always happens that a slightly smaller or greater quantity of light than that which the aperture of the diaphragm supplies is required. To meet this want, Mr. Collins constructed the apparatus represented in the adjoining illustration. Beneath a cap of brass, which is placed below the stage, are arranged four moveable shutters connected with a lever, which in its turn is worked by a milled head. By turning this latter the shutters may be opened or closed to any extent—the aperture always retaining its original form—and thus the precise quantity of light required is allowed to fall upon the object.

The illumination of opaque objects is generally conducted with what is known as a bull's-eye condenser. This is simply a very large magnifying lens which, when placed between the object and a lamp flame, causes a bright spot of light to fall upon the latter. In the case of very minute objects, however, viewed with high powers, the bull's eye cannot be used, and until lately it was impossible to examine very minute bodies as opaque objects. The obstacles in the way were removed by a contrivance invented by Mr. Smith, an American microscopist, and which is now manufactured by

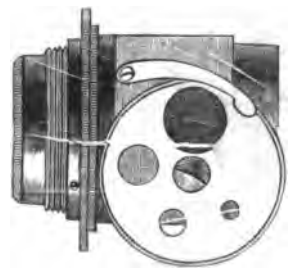

Fig. 11.

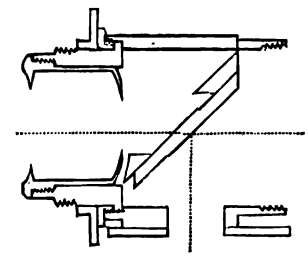

Fig. 12.

Messrs. Powell and Lealand, of Euston Road (figs. 11 and 12). Mr. Smith made the object-glass its own illuminator by piercing a small hole in the upper part of it, and fixing opposite to this, and at a certain angle, a disc of glass; a lamp being placed near the aperture the light falls on the disc of glass, as shown in the figure, and is reflected by it upon the object; the light then coming back from the object, and traversing the disc, reaches the observer's eye. The microscopist sometimes finds that, whilst there is only sufficient light to illumine his object satisfactorily, there is too much light around the object—the illuminated field of view, in other words, is too glaring. To obviate this, Mr. H. J. Slack has recently devised a plan which has been carried out effectually. He introduces a sort of shutter into the eyepiece. By working this he can so contract the field of view that it merely incloses the object. Thus, whilst perfect illumination is obtained, the eye is protected from the injurious influence of a brilliant stream of light.

We come now to our third section, that relating to the mounting of objects. By mounting is meant placing an object on a glass slide, fixing it in some preservative substance, such as glycerine or Canada balsam, covering it with a piece of thin talc-like glass, and fastening this down with cement. In performing these several operations under the old method the object was often displaced owing to the want of some contrivance for keeping it *in situ*. This difficulty has been overcome by Dr. Maddox, who has given us what he terms a "spring-clip." This is a piece of wire bent in the shape of a letter-clip, and which, when placed upon the glass slide, exerts a firm pressure on the thin glass covering the object, and thus keeps it in position till the cement

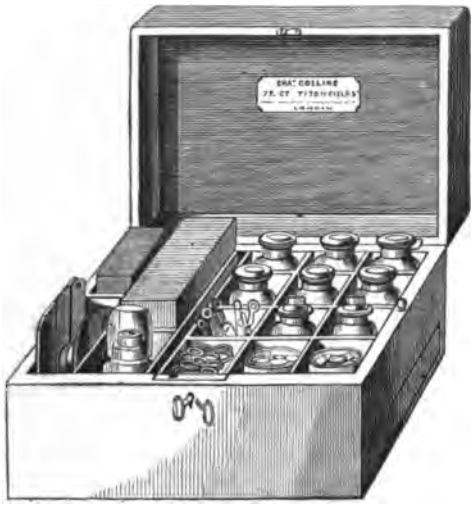

Fig. 13.

used to fasten it is sufficiently dry. A useful little case has been recently made by Mr. Collins, and is called by him the "amateur's 'mounting'-case" (fig. 13). It is nothing more than a neat cabinet containing a number of compartments, in which are stowed away all the paraphernalia of the worker.

Fig. 14.

The figure gives a general idea of the contents. But we may mention that, besides the glass slides, the cells, covers, fluids, cements, spring-clips, &c., the case contains a turn-table, spirit-lamp, and brass table for heating the slides. Similar in form, but very different in contents, is the case known as Dr. Lawson's student's mounting-case, also made by Mr. Collins (fig. 14). This is intended for the medical student, and contains, besides all the usual accessories, cements, and so forth, the peculiar liquids employed in injecting the finer bloodvessels, a syringe, razor, and certain chemical reagents. Messrs. Baker have just added to their list of apparatus for mounting a very convenient little air-pump, which deserves the notice of microscopists (fig. 15). It

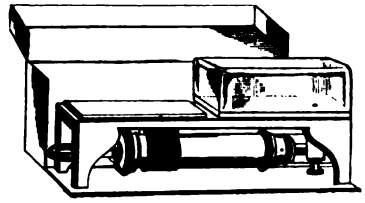

Fig. 15.

consists of a good syringe, fixed under a wooden table, on the upper surface of which is a metallic plate pierced by a small aperture. Over this latter rests a cell of solid glass, some inches in length and height. In using this instrument to remove air-bubbles, the microscopist places the slide on the metallic plate, covers it with the glass cell, and by a few pulls of the syringe exhausts the air.

The last novelties we have to notice are those in relation to our fourth section—Collecting. First in order comes Mr. Collins' collecting-case (fig. 16), a

Fig. 16.

handy tin box, with hinged cover, and which is either suspended by a sling passing over the shoulders, or is fixed in an ordinary tourist's bag. It contains three large bottles for water animals, and three or four tubes, with corks, for insects, &c., besides a small net, which, when used, is attached to the ferule of a stick which accompanies the case. Mr. Highley makes a smaller case, or rather pair of cases, which are intended to be stowed away in the naturalist's pocket. *His* net is mounted in spring-steel and packs into a very small space. Mr. Baker's pond-stick (fig. 17) is somewhat like that of Mr. Highley and Mr. Collins. Removing the

ferule a second stick draws out, thus increasing the length; and to this is fastened a ring, into which the bottles contained in the case, and also a useful weed-knife, are screwed. The differences between the sticks and nets of the three makers are of trivial importance; but we are not quite certain to which of them the right to priority of manufacture belongs. Some say Mr. Highley was the first to use a stick of the kind, but it is certain that the contrivance was simultaneously exhibited in public by him and by Messrs. Baker.

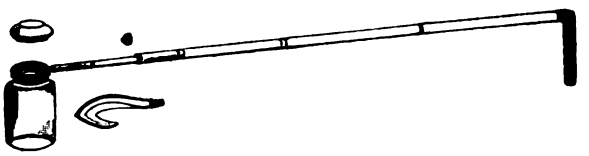

Fig. 17.

KING CHASSELAS.

By G. W. Yapp.

WANDERING about the pleasant country watered by the Seine, the Marne, and their tributaries, during the few happy summer days which that severe mistress, duty, allows to her desk-bound sons, I found myself in the curious old town of Moret, situated just beyond the extreme verge of the forest of Fontainebleau. Moret was formerly a walled city with advanced works, situated on an island in the middle of the river Loing which bounds it on one side; some portions of the old walls still remain, but the island is now covered by a flour-mill, which does a good deal more work, and probably makes a great deal less noise, than the old bowmen and men at arms who formerly inhabited the place. At each end of the road which passes through the middle of the town, in a line with the double bridge which spans the river and connects the island with the opposite shores, is a curious old gate-way, in excellent preservation; and adjoining each of them are remnants of the old military buildings that sheltered the garrison, not only from the weather, but also from the winged or other messengers which the restless spirits of the feudal ages might attempt to send into old Moret. In order that any wanderer like myself, coming suddenly upon the place from the river side, should have no doubt concerning his whereabouts, the name of the town is painted on a tablet fixed over the gate at that end, just as Smith or Brown place their names over their shops, an uncommon but after all a very natural act. One of these gate-towers was the scene of a sad catastrophe about two years since. It is in the occupation of an inn-keeper whose establishment adjoins it, and one of the upper apartments was used as a dining-room for visitors. Three or four artists and literary men were collected there in a joyous group when the whole of the floor gave way, and the party was precipitated into the room below; they were all much hurt by the falling of the heavy beams and flooring upon them, and two out of the number, if not more, eventually died of the injuries they received, a sad warning against trusting the soundness of such old constructions when not under the care of competent surveyors.

Moret possesses a very beautiful and curious church, and also the remains of one of those refuges of widowed queens —the *châteaux* of the *Reines Blanches*—of which there are so many in various parts of France. Another of the lions of the place is an old house in the high street, on which is a slab informing visitors that Napoleon the First slept there on his way from Elba in 1814.

On the occasion of my visit to Moret, early in October, the first thing that attracted the eye was not the *Château* of the *Reine Blanche*, or the church, or the old gate towers, but walnuts. The streets were all walnuts, spread out on sacks, horse-cloths, and almost every possible kind of cloths, that their brown jerkins might be dried in the sun, after removal of their green overcoats, and (sulphur not being used in France to bleach walnuts), to enable them to travel up to Paris or elsewhere, in close carriages, without perspiring or spoiling their complexions. Walnuts are not by any means to be despised; and "wine and walnuts" has become a standing phrase, but there was metal still more attractive, not very far off; and I, with certain young lasses of my kin who accompanied me, determined to extend our walk, and visit the birthplace of the *Roi Chasselas!* You will not find the name of this monarch in the regal tablets of France; he is neither Merovingian, Capet, nor Bourbon, yet he is invariably called Chasselas of Fontainebleau, and he reigns at the present moment as regally as ever. Whoever else may be at table, he invariably fills one of the highest places; the proudest men acknowledge his virtues; the chastest lips are always ready to embrace him, and children dote upon him; who then is a happy monarch if it be not King Chasselas of Fontainebleau? We therefore bent our steps towards the place of his birth, and there we found him, not on a throne, not at the head of an army, not sitting at the council board, but hanging on a wall!

But we are proceeding a little too fast; our walk was not a short one—the calendar had gone forward to "jolly old October:" but Sol seemed to be retracing his steps and picking up some of the time he had lost in August; we knew that King Chasselas loved sunny weather, so we expected to find him with a joyous face. We made our way towards a little place, containing about a house and a-half perched upon a hillock, and known, probably to the extent of two miles in every direction, by the name of Veneux. From this we looked down upon Saint Mammés, a small town sparkling in the sunbeams in the midst of emerald meadows at the "meeting of the waters" of the Seine and the Loing. Certainly Saint Mammés has chosen a very pretty summer seat, yet it struck us, as we looked on the very fresh grass around, that he must be liable to occasional attacks of rheumatism.

Turning our backs upon Saint Mammés and the meadows where "the bright waters meet," we found ourselves approaching another place whose name is not quite so well-known as London or Paris, and which must have been christened when letters were scarce, or the days short. Its full name is By; and we did not hear that it was ever abridged by way of endearment. We made for By, as we had been instructed, by the high road, but we missed it, and to our small regret, for we found ourselves in a huge orchard, or rather, in a wilderness of orchards, a world of fruit, an ocean of lusciousness. It is needless to say what fruits grew there, but it may be mentioned that while rich purple and waxy green grapes hung in luxurious profusion on all sides, we indulged in a few bunches of richly ripe currants, and might have revelled in specimens of every fruit in season. For a mile or more the road into which we had accidentally wandered—and which we propose to call for distinction, "By-the-Bye"—was lined on

each side, as far as the eye could reach, with orchards, and the ground was literally so covered with apples and pears, that fruit seemed to be considered worthless, a notion which was not, however, to be long entertained in face of the fact that a small army of road makers was engaged in making still firmer and neater the already firm, hard, well-kept road of "By-the-Bye." When we had wandered and wandered to our heart's content upon this fruity thoroughfare, thinking that perhaps the small attendance of birds in the forest of Fontainebleau might be accounted for by the superior attractions of luxuriant By-the-Bye, we began to cast our eyes around for the "towers" of Rosa Bonheur's castle which we knew to be near at hand. The search was a short one, for just as we were emerging from this great orchard street, a tall tower—a real tower, as we had been told and did not believe,—rose before us, and there, on one of its faces, we saw a clock dial about the size of that of the Horseguards, and the initials in solid brick, of the famous painter of the Horse-fair, *Chevalière* of the Legion of Honour. The tower, which has quite a feudal air, is tacked on to a comfortable old-fashioned house, and the large studio windows—the Great Northern Lights as they may be called—together with the apparent extent of the grounds and out-houses, bear witness to the tastes and pursuits of the famous *Châtelaine*. With a pleasant feeling, in which we hope no envy mingled, that talent *sometimes* met its reward, we gave a hearty (mental) cheer for Rosa Bonheur—a *Salve Rosa*—and proceeded on our way. By one of those unaccountable slips we had almost, from old association, written *Salvator Rosa;* but we saw the mistake in time, and thus escaped a terrible solecism.

Where By ends, we never quite made out, but there, wherever it is, Thomery begins—and Thomery is just as fruity as By, although far more "wally" and less orchard like. Along the high road both of By and Thomery, and in every street of both, there is not a bit of wall open to Phœbus's bright glances that is not laden with fruit. Here no shops are visible, only walls pierced with doors and windows, and covered with lattices and fruit; the road-side inn is a small vineyard; the tailor is set in a square frame surrounded with leaves and clusters, and we saw the blacksmith hammering with might and main in a parlour—we can call it nothing else—whose wall was brilliantly white beneath a treasure of verdure and fruit. The walls and lattices are unlike any other fruit-walls and lattices we have seen elsewhere: it is evident that the former are lime-washed, and the latter painted every year, in order to destroy those smaller creatures which love fruit as well as we do, and rudely, though perhaps sensibly, generally help themselves first. Among the fruits are conspicuous those magnificent pears which are to be seen in the Palais Royal, somewhat in shape and size like legs of Welsh mutton, with others of more modest bulk and even more tempting appearance. As corpulence tends towards the earth, and pears are not persistent in their attachments, shelves or slight frames, filled in with wire or net work, are placed just beneath the lowest branches to break their fall; as we passed we saw several ripe monsters reclining calmly in the splinter netting thus spread out to catch them.

But at Thomery the vine assumes the supremacy, and even the most luscious, melting pear must hide his diminished head in presence of that fruit which Anacreon so loved, but which so cruelly requited the poet's affection and sadly rewarded his mellifluous praises, by sticking in his throat. Almost every yard of ground at Thomery is covered with rows of walls or espaliers, and there it was that we found King Chasselas of Fontainebleau hanging in all his glory. Chasselas is the name of those magnificent grapes first grown at or near Fontainebleau; and now at Thomery, its little dependency By, and a village called Champagne on the opposite side of the Seine. The espaliers are only about three feet, and the walls about six feet high, and the latter are so placed that the sun shines upon one of their faces from the time of its rising till about one o'clock in the day; and the other side is always bare, for no parasite may diminish King Chasselas's means of subsistence. The top of the wall is covered with a slight overhanging roof, but another mode of protection in the shape of a hanging shelf of straw or wood is also in use. The grapes grow from very near the ground to the top of the wall, and the vines are so carefully trained, trimmed, and tended that at a distance the walls have almost the appearance of those trellice and grape paper hangings which, under certain favourable conditions, may help even the occupant of a garret to fancy himself in the country. But this nearly geometric arrangement is saved from monotony by the endless variety of nature, for, even if form be brought under absolute rule, colour and the play of light are happily still free. Even the walls in the public roads where the aspect is good are covered with delicious fruit, and the vines are only protected by a slight fence of laths or wire, which almost any arm could easily reach over; and in the streets the luscious crop seems in danger from every passer by, but King Chasselas is evidently respected in this his chosen dominion.

While the grapes are hanging on the wall, they are constantly supervised, and women may be seen in all directions busily removing with a small pair of scissors all the damaged berries they can find, and, when the bunches are ripe, they are plucked with the greatest care. They are not placed in masses, but gathered into neat, small, white baskets that do not hold more than two pounds each, or thereabouts, and they are then carried home as carefully as delicate porcelain. The method of conveying them is curious; a man carries on his back a light wooden frame, consisting of two sides and four shelves open behind, and having each only a narrow lath towards the porter's back to prevent the baskets from slipping through; each shelf holds four of the baskets and the frame, consequently, sixteen in all. When they reach the home of the dealer, each bunch is again examined—being held by the stalk while any bad grains that remain are removed with the scissors—and the grapes thus prepared for sale are laid out in trays on fern leaves to dry in the sun, before being packed for market. The day of our visit was the first on which one of the growers had sent any grapes to market, and the price of the commonest description was four *sous* (less than two pence) for a French pound, which is one tenth heavier than the English. The finest kinds, with berries as large as damsons, whether white or red, were selling on that day at fifteen *sous* a pound, but the price often reaches as high as twenty, and even twenty-five *sous*. The damaged grapes are, of course, sent to the press, but it need scarcely be stated that the district is not more famous for its wine than is the country that produces Champagne or Chambertin for dessert grapes; one object of cultivation is sufficient for the attention of each district. The grapes are sent to the Fontainebleau and Paris markets in small baskets or boxes, these again being packed in large open sided crates or cradles, and a walk of half-an-hour through a bit of the forest of Fontainebleau brings one to the Thomery Station, a little rural establishment which seems to have been set up for the express purpose of the despatch of full packages of grapes, and the return of the empty ones. A few passengers take or quit the rail there, but it is evident from the manner of the officials that they regard them as interlopers or strays.

The Anacreontic agriculturists are far from being in good spirits this year, and when we referred to the inundation which had occurred only a day or two before, and which had left its marks visibly imprinted on the walls of the lower parts of the neighbourhood, one of the good women who was busy giving the Chasselas their last toilet, said with a heavy sigh, "Ah! Monsieur, it has been indeed a terrible season for us; the rain nearly washed the fruit off the vines, and then to complete the mischief, the river rose upon us, and *some of the grapes were actually under water!*" It is impossible to magnify the terrible importance of this complaint, or the melancholy tone in which it was uttered. King Chasselas under water! Of what import in comparison to the good people of Thomery, was the washing away of hay-stacks, and corn sheaves, and the ruin of green crops. They grow no corn, make no hay, and raise no mangold-wurzel: the Chasselas are to them meat, drink, and clothing, and it is not in human nature to avoid being rather more interested in number one than in number two

or number twenty. Long may it be before the ill-mannered Seine and its mischievous little chit, the Loing, again wet the feet of King Chasselas, and place him in danger of a chill, and may the good old lady of Thomery live a thousand years, and never again see a grape under water. Even without the Chasselas, Thomery would be well worth a visit, for it is unlike any other place we ever saw in France. There is no dirt in its vine-clad streets, we saw not a single dunghill, not a ditch or puddle, not a pig or a duck, though here and there a few genteel fowls of choice breeds, as clean and orderly as well bred ladies and gentlemen. There was scarcely a weed anywhere, or a single straw out of place, and yet Thomery is anything but formal. It is as irregular as an artist could desire, only there are no fine stilton cheese coloured walls, for they would create dust, and harbour all kinds of creeping things which could not be permitted in the dominions of King Chasselas. The only resemblance we can find for Thomery is a charming village scene at the Opera, and nothing was required to complete the illusion, but bands of peasantry in silk and muslin, and strains of delicious music. Surely, there must be a day in the year when the good folks of Thomery put on holiday attire, keep high revel in honour of Bacchus and Pomona, triumphantly bear King Chasselas (in the form of the largest bunch of grapes of the season) to a throne hung with roses, perform before him the true *danse des vendangeurs*, and pledge each other in huge bowls of rosy juice fresh from the purple berries, unfermented, unadulterated, unalloyed.

MICHELET'S "L'OISEAU."*

(Second Article.)

WE could not easily find a prettier head-piece for this our second article than what Giacomelli has designed for the title-page of the Second Part of "L'Oiseau." There may be weakness in one or two of the bramble shoots; but, on the whole, it is a dainty wreath. The lower group will be best appreciated by a mother who has had human chicks of her own to feed, the nursery-maid being out of the way. She will mark how the mother-bird is hurrying home with her prize; and how two of those feathered children have scrambled out, each eager to be first; while a third halts on the edge of the nest, less hungry, or more afraid of toppling over. They will soon follow their parents into the copses or meadows, and hunt for themselves amongst leaves or feathered grasses. We

* "L'Oiseau." Par J. Michelet. Huitième édition, illustrée de 210 vignettes sur bois, dessinées par H. Giacomelli. Paris: Librairie de L. Hachette et Cie. 1867.

need only turn the pages before us to find them at their busy game. As we look at one of the scenes, we remember an old room which we have not entered for ever so many years. There is a bright morning sunshine on the turf and shrubbery outside; but the glass door of the room is darkened by a pair of cherry trees in full blossom. The youngster within, poring over his book, suddenly looks up; he has been startled by a rush and chatter; and there they are, five bold dashing birds, hooded with black and breasted with yellow: they are twittering and fluttering one above another, or swinging head downwards from a spray, and sending a shower of blossoms right and left. He watches them, half sorry for the rifled bough; but he would give up whole days of flowers and all hopes of cherries for the sake of catching "ae blink o' the bonnie birdies." "That may be all very fine for you," some market-gardener will reply, "but I don't moil and toil in my orchard just to pamper up a flock of idle titmice." Oh, hard-headed Rusticus, what are the labours of thee and thy cart-horse compared with those of the father of eighteen tits? And whilst working for them, is he not also working for thee? True, he has a reckless way of picking at a worm in the bud; yet strike the balance, and he may prove to be the best labourer on thy grounds. But we are appealing to a practical man, who only believes what he sees, and cannot see very far. And thus the slaughter of the innocents still goes on, in spite of letters to the *Times* on the great subject of little birds.

The question is really great, for it is permanent; whilst the Luxemburg affair is already beginning to pass over. Michelet enters upon this part of his discourse with becoming gravity: something after this fashion. The *greedy* husbandman, as Virgil justly terms him,—the husbandman blinded by his greed—grudges to his friends what he lavishes upon his foes. Not a grain for him who, in the rainy season, turned every leaf over and over, and routed up the nests of the larvæ! but sacks of corn for the full-grown insects, and whole fields for the nomade hordes, which the birds would at least have decimated! Wherever the bird has been outlawed, the insect has avenged him. In the isle of Bourbon a price was set upon the head of the martin: he disappeared, and the locusts took possession of the island. A similar scourge swept across North America when they doomed the starling, the defender of the maize. Even the sparrow protects more than he destroys; and he has been recalled to Hungary, after years of proscription, in order to check the ravages of the cockchafer. The latter insect, in its grub state, devours the roots of the grasses; and "I have seen (says Michelet) a meadow in Normandy where the entire surface was dried up, and could be rolled off the subsoil like a carpet." And why was this? Because they had effectually scared away the crows. The deadliest enemies of the northern harvest pass the winter underground. They lie there in the shape of eggs. A few are touched by frost, but most of them are beyond its reach. In spring they swarm into life, and maintain it at the expense of the farmer. This is the time for the rook, who plucks up the withered grass, and destroys the destroyer. And as for the creeping things upon plant or tree, no purge is so good for them as the mother titmouse, who can scarcely keep her score of young beaks quiet with three hundred worms a day.

We have just been quoting the statistics of Michelet, who seems to have mustered the beaks of two broods of the titmouse together. It is quite true that, *in the course of the summer*, there have sometimes been more than twenty in one nest, all agape for caterpillars. That hole in a woodland tree, where the brave nest-mother sits hissing and pecking at the schoolboy's finger, ought to be held at least as sacred as our game preserves. It is a lion's den, but only for our enemies. It swallows flocks and herds that would otherwise have blackened and shrivelled up the leaves, and hung the branches with hideous webs. And as each successive brood leaves home, the growing tits by no means leave their appetites behind them. They soon rival their parents in hopping along the twigs after the grub, and in stretching their wings after the moth. Their powers of vision are microscopic. It is stated by Mudie (*British Birds*, 1854, vol. i., p. 405) that "an insect a quarter of an inch long will appear as large to the eye of the long-tailed tit as the common mouse does to the eye of man when held as near as it can be seen." Thus, in the orchards at winter-time, they ferret out the eggs of vermin where no gardener could possibly detect them. The other members of the same family, whether clad in black and yellow or in bright blue feathers, are almost equally sharp-sighted and useful; and the thefts which they commit are very trifling. Yet these friends of the countryman are strung up by him, and borne in triumph to the sparrow-clubs; together with blackbirds and thrushes, which have consumed more slugs than fruits; and together with the finches, including even Goldie, who lives by clearing the land of weeds and thistles. Can it be said that they order *these* matters better in France? Not a bit, we fear. We have somewhere read of French rustics whose only notion of a wild bird was a magpie. And in the present volume (p. 397) a diatribe against idle shooting begins thus: "There are many kinds of birds that no longer halt in their passage over France. One may see them, high out of range, straining their pinions, and saying to each other, 'Onward, hasten onward! keep aloof from the land of death, the land of destruction.'"

At the end of this diatribe Giacomelli has placed one of his elegant tail-pieces. It is the stump of an old double-barrelled gun, with two dicky-birds perched on the lock, singing "Oh be joyful." It prefigures a millennium which is still far distant. Whenever it does arrive, it will bring cold comfort to the game birds. They will soon disappear when they cease to afford a good day's shooting; so that each of them literally falls for the benefit of his kindred. One cannot easily defend amateur butchery on high moral grounds. Excuses may be found, but none that are worth searching for. The one thing certain is that we Englishmen are not likely to lose our sporting instincts till we turn vegetarians. For the present, then, we leave the pheasant to the sportsman; but we do exhort him to leave the swallow to us. It was meant to be something better than a flying target. Again, the farmer must be forgiven if he knocks over a few sparrows and yellow-hammers at harvest-time; but he ought to be shamed out of encouraging the *varmint chaps* who snare and poison by wholesale. Lastly, how about the schoolboy? We agree with Howitt (in his excellent "Country Book") that it is useless, if not undesirable, to warn a boy against clambering after eggs, but that he may very easily be taught the unmanliness of kidnapping the callow young. The most experienced bird-fancier cannot foster them as their parents would have done, and what can be expected from their still ruder foster-father? They are half-forgotten at school-time, and wholly forgotten at cricket-time; and they get alternately starved and crammed, and suffer tortures before they die. Even the fledglings rarely thrive. We remember too well our own jays and jackdaws. We hope that our descendants will be better schooled, and therefore less brutal.

There are two birds that already owe a great deal to literature, in the shape of nursery rhyme. Every child knows the "Courtship and Death of Cock Robin," and also the kindly legend that tells how "the robin redbreast and the wren are God Almighty's cock and hen;" and we doubt whether Science will ever protect the gentle pair more effectually. Once, and once only, we have seen a wretched urchin shoot a cock-robin. He did not know what he was doing, for he was half crazy with the desire of killing. It was almost the first time that he had held a gun in his hands, and the skylarks had been deriding him for half an hour. He turned round against the nearest object, and fired. As the shot left the barrel he beheld a picture that appealed to him too late—the tragedy of an instant. On the topmost twig was a female bird, bending down towards her mate, who stretched up to her from another twig, his whole frame quivering with song: the instant passed, and he dropped. His young murderer was heart-stricken. "I only hope that it is not a robin," he cried, as he ran to pick it up. Many of the feathers were "dyed doubly red" (like the lips of Fair Rosamond when Queen Eleanor struck them), but there was no mistaking the native colour of the breast. We ourselves helped to dig his grave, and we have never

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forgotten the pang with which we buried poor Robin under our cherry-trees.

But oh, for those days of our youthful eyes and ears, when the copses sprang and rang around us tenfold more lustily than now. They are long gone by; and so are many later days which we wasted in pottering about the neighbourhood of Gray's Inn. Not that we disdain the square where we so often watched the white pigeons wheel, and settle, and flutter ahead of the creeping cats. Still less that we disdain the garden where the black rook wooes his "Ethiop queen" with a courting stick as black as themselves; and where they bear it aloft between them to patch his ruined castle, founded under the eyes of Sir Roger de Coverley. But both rook and pigeon are as town-bred as the tailless sparrows; and we have often grown sick of them all, when our blood was seething with the May fever. Then the nights seemed sultry before their season; and we would often toss on the pillow counting every crow of the filthy fowls in Fulwood's Rents, from the hoarse Cochin at one end to the shrill Bantam at the other. But lo! a bolt out of bed, a cab, and an early train, and we stand on the Surrey hills! The atmosphere sparkles to our lips like champagne, and washes the soot out of our nostrils. We can smell the sweet white turpentine, oozing from the fresh-tufted branches of yonder pine-trees. We can hear the distant cuckoo, though a long sweep of beechwood lies between us, resounding with the strokes of the woodpecker. We can see everything: the lark like a mote in the sunbeam, and the quaint bee-orchis at our feet. Our senses have returned,—what lack they yet? There is a white house down by the bridge, and there is a look of fresh eggs about it; but we shall not linger there long. We know a glen with a mossy bank, fit for King Arthur in the isle of Avalon. We will sleep *there* till the nightingale awakes us; so close, perhaps, that we can catch the glance of his eye, and see the feathers on his throat swelling and sinking in the moonlight. Such things have been, and may be again. But now, by the *Birds* of Aristophanes, what with visions of boyhood and visions of manhood, our wits have gone woolgathering in the sky, and building a rare Cloud-cuckoo-town; and the printers have, all the time, been waiting for our second article on the birds of Michelet and Giacomelli. We will descend to earth like the skylark. But first we will take one more turn in mid-air. There are buzzing sounds in an odd corner of our brain—faint echoes of the Greek bird choruses, with burthens of *popopopopoi* and *tiotiotiotinx*. But we are not about to offend our fair readers with the originals, nor yet with our own schoolboy versions. We only wish to assert, that our adjuration of Aristophanes was much less out of place than it might seem to be. We have frequently been reminded of him whilst perusing "L'Oiseau." The Frenchman, like the old Athenian, shoots political arrows from behind his feathered stalking-horse. Hence his abuse of the aristocratic eagle, and hence his praise of the plebeian woodpecker. He considers the latter, with his red cap of liberty, to be the *beau ideal* of the French workman. To complete the resemblance, continues Michelet, he is calumniated. He is reported dangerous to the State: whereas he actually deserves a pension, and the title of Keeper of the Woods and Forests! The episode of poor Pecker in love is very amusing. In fact, Michelet is never dull; and, after all, he is really earnest in behalf of his nominal clients. Earth cannot do without the little birds; yet she treats them most ungratefully. That is the main drift of his argument; and he pleads the cause with force and pathos. But ever and anon his solemnity borders upon the burlesque; and we half expect to hear him cry, Remember what happened in the days of Aristophanes! Remember how the John Bright of Athens awoke the birds to a sense of their rights; and how they built Cloud-cuckoo-town between heaven and earth, so that no rain could fall, and no smoke of sacrifice could rise, until both men and gods were starved into submission.

Our spirit is only a short-winged bird; and its flight is over. You may see a fellow to it, fair reader, in the accompanying design by Giacomelli. It has no great cloud-cuckoo-town to show you: nothing but the corner of a green lane. Its one humble nest is hidden there so cunningly, that we doubt whether you can see a stick of it. Be content with admiring the leaves and ferns; and we shall be sorry if they have not a double charm for you, when you think of the happy home beneath them.

THE FRENCH AND FLEMISH GALLERY.

THE fourteenth annual exhibition of works by French and Flemish painters is now open at No. 120, Pall Mall, and we recommend such of our readers as care for art to take the opportunity of again studying the merits of these admirable schools, and comparing their works with those so lately displayed on the same walls by English artists. In this last investigation, it is right to remember that these pictures take pretty nearly the same rank, with regard to the *chef-d'œuvres* of the two foreign schools they represent as those in the late Winter Exhibition did to our English school. For the most part they are what may be called the common places of the studio, the current accomplishment, the clever essay. Some indeed are replicas of larger pictures which have brought the artists well-earned renown, and some few are by men whose genius is never absent, and whose smallest work shows the divine quality as certainly as their greatest. We think the prevailing impressions produced by the two sets of pictures are, good method and want of light in these, and uncertain and often blundering method but superior intention of colour in the English; and we think also that to the English may be awarded the superiority in individuality. For, although these pictures are various, and full of accurate imitation of things the most diverse, there is to be traced in most of them a following of one or other of the masters who are celebrated in the school, so that the studies of natural things are made from certain points of view. This is of course inevitable to some degree, but these points of view seem to us fewer in France than in England. For with all the badness and wilfulness of our English painters, they generally show us something of themselves, and, in the absence of real art, which is impersonal, this individuality is more interesting to our mind than the mere outside formula of correct style without the genius which it ought to embody. No school has ever laid itself out for great works more determinately than the French, and yet we would hardly say that its successes have been in great works. It falls short of beauty for want of reverence; of heroism, because it is too self-conscious; of pathos, because it is too clever; and it is a curious reflection, that of this great self-glorifying French school the chief outcome, the thing well done, better done than by other men, is the representation of *naïveté*, what we may call the prettiness of gentleness and ignorance —of ignorance in the sense of innocence. The quick sympathetic French nature may be one reason for this; the constant presence of children and old people in the daily life may be another; the exquisite taste which is the national attribute may be another, pointing as it does to the beauty of unaffected graces (much more readily perceived where grace is reduced to a science). Still, the fact is curious and points to the limitation of human endeavours by the unalterable apportionment of human faculty. The greater mass of mankind can but get to a certain point on the high hill of art; only those to whom, as the old fable

says, the gods have given wings, may attain to the shining summit; and though all other wisdom should be ours, it will not help us in this matter. The French are probably the most skilful and ingenious people on the face of the earth, and have from time to time invented the very worst and most inartistic things of which we have any knowledge in modern Europe. For instance, it was to this nation of great warriors, renowned philosophers, and clever women that the idea first came that a crown would look more stately on a periwig, and that the delicacies of millinery would mix with the insignia of royalty. It would however be out of place here to pursue the reflection this anomaly suggests; and besides, it is a somewhat ungracious subject for an Englishman to enlarge upon, seeing that we have as far as lay in our power imitated these fashions for the last hundred years: so we will proceed to examine some of these pictures, taking the well-arranged catalogue as our guide. No. 1, is worthy to head the list, for it is both characteristic and interesting, and belongs to a class of work of which we have no example in England. It may be styled "classic *genre*," and seeks to interest us in classic life, by showing that men and women in those days had much the same manners as ourselves and not (as the great art does) rousing our sympathetic recognition by showing that they had the same passions. Nevertheless it is both a pretty and interesting side of things; and the pictures of Alma-Tadema are capital examples of what may be done. This one, called the "Visit to Delia," is not so good as his other, called "The Honeymoon in the reign of Augustus" (2), which we will notice presently. It represents a morning call at the house of a fashionable beauty, by what are apparently intended for that clique of poets and statesmen of whom Horace sang so pleasantly and sweetly. The expression and character of the heads do not, however, deserve much notice. The painting of the flesh is hot and baked looking, and the hands and feet show none of the high-bred delicacy one wishes to suppose must have characterized the hands and feet of the most luxurious society in bath-loving Rome, where so much time and care was spent upon their adornment. Italian hands also are almost always finely shaped. But the realization of a habitable room in ancient Rome, of the ordinary look and use of the frescoed walls, couches and bronze work, brooches and gold chains, which we generally see only behind the glass of museum cases, is most ingenious and nearly wonderful. How pretty the bronze stove and chaffing-dish, so exquisitely drawn, and beautiful as a ground for the other colours, the black tesserae of the pavement. The dark blue fan against the lighter blue robe is a charming detail of colour, and the couch is altogether pretty. We have before said that we do not care much about its occupants; the fault in the execution of this picture is that the touches are too hard, and many of the small lights out of tone.

The "Honeymoon" (2), to which we before referred, is in many ways a better picture. It is a good composition, and the drawing is large and fine in style. The colour, though still not good, is much less coarse in the flesh than the other; and the imitation of still-life, besides being of astonishing power, is far more harmonious and in tone. We would point out especially the marvellously, solid, and metallic bronze tub in which the oleander grows, and the beautiful tinting of the white marble seat. Throughout there is to be found beautiful and ingenious arrangements of colour—as the under dress of the woman for instance—and there is some grace in the action of the hands. But we cannot be expected to take much interest in the loves of these mature persons, whose charm must at any period have been a matter of singular personal taste.

"Deer in the Forest of Fontainebleau" (11) is by Rosa Bonheur, and of course is a very good piece of painting. It is, however, a slight work as far as thought is concerned, and has not much original impression. We seem to have met these deer in a good many pictures before. The fawn looking round the group is very good, however, and has something new in its wild, obstinate, fierce eyes. In all the works of this gifted artist we see real mastery. The beauties are chosen, and so are faults. There is no hesitation in the broad touch which sweeps out a thousand delicacies, and attains solidity and relief. The painting of the ferns should be compared with those by some of our English painters, to estimate rightly what has been sacrificed, and what gained. We do not much like the tone of the sky in this picture, which, for the rest, has so much of the impression of the Fontainebleau scenery that every one seems to recognize the exact spot.

"Fast Asleep," by Bonnat (13), is a strongly-painted little picture of a child, in an Italian costume, asleep upon a bank by the wayside. It is evidently a study, but so good, both in feeling and execution, as to make it the more regrettable that the painter should have tendered as a background, a smear of dirty colour which takes all light and reality out of what would otherwise have been a charming work. Again, we wonder how it is that in France where there is so much pleasant sunlight, sunlight is banished from pictures.

"The Authoress," by Bisschop (17), seems virtuously conscious of her interesting occupation, and we feel sure she is writing some good little sentimental book fit for good people at Amsterdam. She is very well painted, however, and the colour of the old red desk, perhaps more choice and luminous than anything in the room.

"The Signal" and "Le Jeu de l'Orca," by Coomans (28 and 29). It is fortunate for English Art that two such elaborately bad pictures are almost impossible in our school; for they must have taken some time to do, besides some knowledge and practice as well as prepensity of thought and associations. And the absence of a market in England for such affectations would have mercifully preserved any one inclined to them from acquiring the skill necessary for their production. We speak so strongly because it is possible that the *prettiness* of the subject may mislead some careless observer into a certain complacency when looking at worthless performances, where everything is as untrue as it is *fade* and stupid. "The Little Boy washing his Feet in the House Fountain" (29) is the only really graceful thing in them, and that is taken from the antique. Nos. 34 and 35, by Caraud, are also bad, though the subjects are full of interest. One can scarcely paint the gardens of Le petit Trianon with a figure more or less like Marie Antoinette without attaining some interest, but here the interest stops with the first glance—the vacant face of the queen, and the cindery, sunless garden invite no further examination. As to Louis XVI. making locks, one only thinks it was a very good occupation for him, not without wonder how he managed to learn to do it.

We may speak of "Church-time" (53), by M. Albert de Vriendt, and of (54) "The Return of the Crusader Guillebert de Lannoy from the Holy Land, who relates his adventures to Isabella of Portugal, Duchess of Burgundy," by Julien de Vriendt, as if they were by the same artist, so much are they alike in sentiments and point of view. M. Julien de Vriendt is, however, much more skilful than his namesake. They both seem to be pupils or imitators of the great Belgian artist Leys, that splendid colourist who has found his field in the pageantry of mediæval life, but who, by his profound and serene expression, always holds to the great Art. But his very greatness makes him a dangerous guide to weak men. His ideal treatment betrays them to phantoms and lay figures, and his knowledge of colour gives them a terrible power over blue and red. There is something of mania in these works. "Church-time" has all the manner of the school, but, alas! none of the matter. Two very dull-looking ladies in very fine dresses appear to be going with reluctance into a Gothic Church. A nun pulls a bell-rope with provoking assiduity. And we can no longer wonder at the Reformation if this is in anywise a true presentment of the religious observances of the middle ages. The other picture is really pathetic. Poor Isabella of Portugal is there represented, shut up in a sort of Gothic pew with an ineffably dreary-looking Crusader bent upon telling his story, while her attendants and subjects contemplate her dreadful fate, through the bars, with terror and dismay. One sees that she will yawn in a minute; there is no help for her, and Guillebert de Lannoy will go on. It is already sun-set, but they will light lamps presently. Whoso has heard a military story knows that it may not be averted.

If she might sleep, it were well; but Isabella of Portugal must be worthy of her ancestry, and sit bolt upright to the end of the tale. She has a beautiful gold dress, however, and the Crusader is as like a bore of the fifteenth century as we can imagine.

Nos. 73, 74, and 75 are the work of one of the completest geniuses that France has produced—Edouard Frère. We say completest, because we think that in his works may be traced that harmony between his most spontaneous sympathies and his aim in art, which makes us recognize them as expressions of true emotions—not perhaps of the greatest, but still the emotions of a living mind. Nothing in his pictures in any way contradicts or disturbs the dominant sentiment. The very absence of great qualities in the drawing and colour adds to their gentle humanity. One is with an equal, as it were, and willing to be pleased with simple pleasant things. All ideas of strife and the pride of emulation are forgotten, looking upon these artless, tender paintings, with their hesitating touch and half-understood effects. We may well forgive him his black shadows, when he gives us expression so subtile and gracious to think of, as he has in "The Reprimand" and "The Invalid Doll" (73 and 74). In "The Reprimand" we see two little bodies who have been getting into trouble, committing some of the crime of such wee folk—letting out the calves or chasing the ducks, or, with many deep-laid plots, creeping through the hedge to where the ripening peaches make the garden sacred—perhaps even scuffling with their little round fists, in which case, we venture to say that the combat was not a very fierce one, and after the adjudication of the wonderful old grandfather, who sits at home all day in the shadowy house, they will trot off into the sunlight again, hand in hand. For, you see, these two have been toddling about all the summer day. The little lad stands sturdy and tired, hot from the sun, the collar of his blouse thrown back from his tender brown throat, and his eyes still half dazzled with the light, and the chubby, gentle little woman, who has crept to her well-known refuge at the old man's knee, is already getting drowsy, partly with compunction and partly with rest. The old man is a kindly, punctilious old fellow, quite earnest and particular about the misdeeds of these two minute culprits. It is impossible to express how much there is of tenderness and deep sympathy in this picture, which, while recognizing its shortcomings as a painting, we would rather have than almost any in the Gallery. "The Invalid Doll" (74) has much of the same excellence, but 75, called "Leaving School," is by no means, to our thinking, a successful effort. It is a large picture, and the defective workmanship tells more unfortunately; and again, it is a picture of strong action, which is not the forte of the artist. It represents a troop of boys rushing out of school into the grey, snowy air, some tumbling down the steps, some making slides in the frozen gutter, some throwing snowballs; all "the business" (to borrow a word from the theatre) is there, but they are not boys. They are too much alike, in the first place, and all good boys: they lack animal intensity, the busy eagerness of mischief, in their waywardness—lacking the loyal humble admiration of the weak for the strong, by the utterly absurd merriment which is the privilege of their age. Nor can we find much attempt to render the beauty of lythe young forms, bright eyes, and curly heads, yet this picture has the merit which genius alone can confer—it is equally free from affectation and false excitement as from coarseness and common-place.

"Art and Liberty" (80) is by Gallait, one of the most admired and successful of modern painters. For ourselves, we have never put this accomplished artist among the first: he seems to us to have all sorts of knowledge and no intuition; he knows all about anatomy and heraldry; archæology and expression; the proper things to group to tell his story, and all about paints and mediums, but he does not seem to us to have any special gift of expressing all this knowledge. The clean, bright painting of this picture would be enviable to a scholar, but not to a master. The sentiment is appropriate, but affects us as little as the accuracy of a sermon or prize poem. Everything is well and scientifically drawn, but without fire or sense of movement. Albert Dürer has the noble, but rather helpless air of a tenor hero at the opera. But it is so thankless a task to point out the shortcomings of what has at all events been competently done, that we will say no more.

"Louis XIV. and Molière" (82), by Gérôme, is undoubtedly very fine. The superiority of the design and arrangement of colour to the execution shows, however, that it is a duplicate work; while the expressions are very subtile in intention, but not carried out as finely as they no doubt are in the larger picture, which is now exhibited at Paris. The faces of the king and Molière, for instance, are rather blurred, and the eyes of all the personages want vivacity. The cardinal is the best figure, though somewhat coarse as an expression of priestly arrogance. The colour of his violet robe makes a charming harmony with the white and gold of the room. It is always a great advantage to an artist when his subject allows him to people an existing scene with interesting or historic personages; and there is no doubt that this picture has gained immensely in reality from the fact that the king's room at Versailles looks now almost exactly as it did when the great Louis might be expected to enter it at any moment. In creating ghosts a good solid array of facts are invaluable. The painting of velvets, and gold, and court splendour in this picture is most remarkable—it is not noble and triumphant, as it would have been in a Venetian work, but it is in rare good taste—it is French, in fact.

THE TWO WATER-COLOUR SOCIETIES.

THE new society, or, as it is now called, "The Institute of Painters in Water-Colours," has given this year a lesson to all our societies connected with the Fine Arts, by electing foreign honorary members. All learned societies and academies in every part of the world elect men of celebrity belonging to other countries. This practice should have been carried out by the Royal Academy, and no doubt but it would have been followed. But the honour of giving this worthy example has been seized by the Institute, and they have elected Rosa Bonheur, Henriette Brown, Meissonier, Gallait, and Madou. Rosa Bonheur exhibits "A Highland Lake" (52). It was only lately that this gifted lady made her first attempt at water-colours; during a visit to this country she was so struck with the qualities produced by the English school of water-colours, that she was tempted to try her hand, and the picture here exhibited is one of her first efforts. The technical qualities produced by washing and various other processes have not been carried out to any extent, but the sheep and the figures in the boat are most beautifully done. Mr. Gallait's works are small copies of two of his large historical pictures—"The Warrant of Execution read to Counts Egmont and Horne" (49) and the "Oath of Vargas" (55). Mr. Gallait's power of correct and careful drawing is here seen; it is as thoroughly carried out as in his large pictures. One of the principal pictures in the French section of the International Exhibition of 1862 was by Henriette Brown, of two Sisters of Charity nursing a sick child. She sends a similar subject to this gallery; and we hope that she, as well as the other honorary members, will continue to favour us in future years with further contributions. E. G. Warren has left his corn-fields and beech-trees and gone to the coast, from which he sends "The Battle of the Waters" (226); a wild, stormy picture, with the wind almost visible in it. The

scattered fragments of wreck look like the slain of the battle-field, and they tell how fierce the shock has been; the masses of rock have been very carefully studied. Mr. Haghe, the vice-president, is well represented this year. His principal contribution is a pair of very fine drawings, to which he has given the appropriate titles of "Lawless Times" (223) and "Peaceful Times" (234). The last of these is "Cavaliere d'Arpino Painting the Frescoes in the Cloisters of the Convent of St. Onofrio, Rome." The feeling of peace and repose could not have been better suggested than it is by this quiet cloister and its pious inhabitants, who have left the strife and struggle of the world to end their days in the shade of this retreat. The decoration of the place by the Cavaliere—the incident selected by Mr. Haghe—also helps to confirm the title of the picture; for the cultivation of Art—and all human cultivation as well—can only advance for the benefit of man in peaceful times. The other picture tells its story equally well. A lawless and armed band have entered a house which, from its architecture, might be an Italian villa. Its inhabitants are defending themselves as best they may; and although succour is seen coming, yet the spectator is left in fear for the result to the lives of those attacked. The action and painting in the figures of this picture are admirable, and the grey tones of the architecture display Mr. Haghe's peculiar *forte*. Carl Werner's Egyptian subjects are very successful this year. Out of the many which he exhibits, the first we come to in the catalogue (22) is a very good illustration of Mr. Werner's powers; he draws carefully, is almost photographic in detail, effective and powerful in light and shade, and rich in colour—all qualities of the highest value to such drawings. Mr. Tidey gives four large and well-drawn illustrations of the four seasons. "The French Advocate for Woman's Rights" (82) is a happy title; the advocate seems as strong-limbed as she seems strong-minded. Mr. Hine has taken possession of the Downs, and made them quite his own. What soft lovely greys he gets over the simple outlines of this geological formation. "On the Downs near Folkington, Sussex," (310) is a good specimen of his powers. Mr. Hine is equally fond of the beach, where he likes to study cliffs, rocks, boats, sea-weeds, and oyster-pots, &c. "Coast near Beachy Head" (204) is a highly successful effort. "Nuremberg" (70) by Skinner Prout,—

> "Quaint old town of toil and traffic,
> Quaint old town of art and song,
> Memories haunt thy pointed gables
> Like the rooks that round them throng."

This is about as good a picture as Mr. Prout ever produced—a busy scene brightly painted. "Waiting for the Pantomime" (295), by G. Green, is full of capital character and drawing. "In the Plaza de Toros, Seville" (196), by W. W. Deane, is a picture showing great advancement; small as the face of the queen is, the likeness is evident. Mr. Penley, who contributes such able articles upon painting to this periodical, is strongly represented by a large number of drawings painted in his best style. We most cordially advise his readers to go and see for themselves how well, and with what good effect Mr. Penley carries out the instructions which he gives to others. Space will not permit a further notice of many most meritorious works in this exhibition.

In the OLD WATER-COLOUR ROOM, one of the first pictures which attracts notice is Carl Haag's "Happiness in the Desert" (417). It is one of the very best works Mr. Haag has yet done; the shadow of the camel from the sun and moon—both faint, the one dying and the other coming into existence, each neutralizing the other—is a particularly fine feature in this picture. If happiness is to be got in riches, the reported price of this picture would indicate that Mr. Haag can find "Happiness in the Desert" as well as the Arab family he has so wonderfully represented. Alfred W. Hunt wants the great range and power of Turner; but there is almost no man of the present day who can get some of that great painter's qualities of aërial grays, flickering softness, light, and colour without muddiness or blackness. Still one cannot help wondering at such a title as "November 11th, One o'Clock p.m." (16). It reminds one of the inimitable parody which Professor Aytoun, under the name of "Mr. Dusky," made upon Ruskin's style of writing; in fact, one of Mr. Dusky's criticisms was upon a picture which he at first thought represented a scene under the conditions of effect which would indicate that the hour of the day must be "two o'clock p.m.;" but a more minute inspection made it clear that this was an error, and that the true time represented was twenty-three minutes past two p.m. This was out-Ruskining Ruskin, and Mr. Hunt's title has a very strong resemblance to it. At the same time it must be confessed that it is a very wonderful picture. The clearness and brightness of effect is unrivalled in the room. So fine is the work of every part, that one cannot help regretting that the foreground had not been differently treated: it looks like a child's work; it is poor and unfinished. Compare it with the foreground of "Durham, from Pelaw Wood" (258), by the same artist, and it will be seen that he can give force and effect to that part of his picture. This last will rank, and that with great advantage too, beside Birket Foster's "York" (263). Fine as Foster is at foliage, he would find it difficult to go beyond the group of trees in Hunt's picture. "The Old Breakwater" (150) and "Old Shoreham Bridge" (156) are about the finest works which Mr. Foster has ever exhibited. T. R. Lamont's two pictures are well drawn, but there is a scratchy look about them which, were it got quit of, would greatly improve the effect. "The Puerta de la Sangre, Toledo" (92), by E. A. Goodall, is a very good drawing. Most people will very naturally be pleased with the title and the subject chosen by Mr. Bradley, namely, "The Happy Mother" (201).

"Crimea—Sounding a Retreat" (71), by Frederick F. Shields, is well drawn and painted; it is no fancy picture, but very real in its character. The bugler belongs to the 97th, and it is scarcely fair to any regiment to select it as an example of retreat. The 97th did retreat from the Redan; but it was with no dishonour. They were the first who entered that work, although their colonel and major fell, the one mortally wounded, and the other dead, in the attack.

There are a great many works in this exhibition whose quality and character scarcely require to be noticed; such as John Gilbert, T. M. Richardson, Frederick Tayler, E. Duncan, James Holland, &c. &c., whose reputation we are all agreed upon; but a new man has lately appeared among them, about whose powers there is the very widest possible difference of opinion. According to his admirers, his pictures are about the only works which can be called art in the present day: in fact, art is not the word, they are shrines at which to worship, and the artist is a prophet, or at least a canonized saint. With others this admiration seems one of the greatest delusions of the time; they are lost in wonder at the bare idea of such works being even included under the term pictures. Believers in Spiritualism, the Davenport Brothers, Mrs. Thwaites, or Mr. Burne Jones, would seem to some to be equally ridiculous. Here are High and Low Church in art. Here are the extremes; and who is to decide? Well may the outer world doubt all rules of criticism when they find artists themselves so wide in their judgments. Mr. Burne Jones's works are certainly curious productions; and it is said that the members of the Society were very much astonished at themselves when they first saw his works upon their walls. Possibly there is a certain want in modern art, and it is too much made up of light and shade, drawing and composition, mechanical power and dexterity; possibly it altogether wants the higher and more spiritual qualities of relationship to man's moral and religious nature. Mr. Jones does make an attempt at these higher attributes, and the devotion of his ardent and worshipping admirers may be interpreted as a protest against their absence from modern art. Whether he has attained them, or will be the star of a new school, or not, we will not try to decide; time itself will make the point clear.

REVIEWS.

Rough Notes by an Old Soldier during Fifty Years' Service, from Ensign G. B., to Major-General, C.B. London: Day & Son, Limited.

THESE two volumes contain the record of a thorough soldier's life; vigorously, clearly, and simply narrated. It appears almost marvellous that their author can have come unscathed through the numerous perils which he recounts. He seems to have walked through life over red-hot plough-shares, as it were, of battles, tempests, and pestilences. In fact, this autobiography of Major-General George Bell, C.B., conveys a most vivid impression of the exceedingly active service entailed upon our soldiers by our numerous and distant dependencies. In 1811, the author having obtained an ensigncy in the 34th Regiment of the Line, assumed the cocked hat and feather, jack boots, and white breeches of the period. During the next three years he was engaged in the thick of the fighting in the Peninsula. Among the battles and sieges which he describes, the storming of Badajoz stands prominently forth as a splendid instance of the indomitable valour of the British soldier. The story has been told before, but it is worth re-telling in its magnificence of horror. "Here now," writes our author, "was a crushing and most desperate struggle for the prize; the bright beams of the moon were obscured with powder smoke—the springing of mines, powder barrels, flashing of guns and small arms, rendered our men marks for destruction—death's grasp was just on the remnant of the brave, a total annihilation of humanity on our side, when the troops who had escaladed the castle made a dash at the breach, and with one loud cheer for England, and a sweeping volley, and another mad shrieking yell, rushed on with the bayonet, and cleared the bloody gap for those below, who now rushed in, driving the French from every point—and Badajoz was won." But unfortunately he is compelled to state afterwards how this courage was tarnished.—"For two days the town was in possession of the victorious, and it may be as well to draw a veil over the misdeeds of men stained with the blood of their comrades." He ascribes much of the carnage to the neglect of the Government in providing the army with proper besieging tools. Indeed it is lamentable to read that troops, displaying such devotion, were constantly suffering from insufficiency of food, clothing, and the munitions of war. The recital of these miseries evokes, as we may imagine, the grand old shade of Picton and the following familiar receipt for dealing with the red-tape worm:—

"Sir Thomas Picton told his commissary one day, that if he did not find rations for his men, he would hang him on a tree. The commissary became very indignant at this insult (as he termed it), and went off to Lord Wellington to complain. After hearing the whole story with wonderful complaisance, he said, 'Did Sir Thomas really say so?' 'Yes, my lord, those were his very words.' 'Very well, you had better get the rations, or you may be sure he will keep his word. I can do nothing for you: good morning.' The commissary returned and found the rations for his brigade."

We renew our acquaintance, in the Peninsula, with Maurice Quill, the witty doctor, one of Lever's delightful characters; and we are presented with many pleasant sketches of Spanish life, besides the stirring accounts of assaults, charges, marches, and bivouacs. Subsequently the General served for many years in the East Indies, enduring all the annoyances of flies, fever, mosquitoes, and thermometers at 130°. He was ordered to "Rangoon, with its 3,000 pagodas, its stockade, shipping, war boats, high and towering talipat and cocoa trees, Poonghee houses, and the great burnished temple topping all, and standing in the midst of this forest of fairy-like land of enchantment"—to fight the Burmese. He was next exposed for seven years to the extreme of cold in Canada, where he distinguished himself in the suppression of the rebellion. He then returned to the fierce sunshine of a West India station, where he observes "the grave-yard was under the men's windows, a very remarkable and interesting view, and well chosen by the authorities to keep invalids in remembrance that the garrison was deposited there every seven years." Such was the spirit of this old soldier that in 1854, after forty-two years' service, he could not rest content with the command of his regiment at serene Cephalonia, but applied for and obtained the 1st battalion of the Royals, under orders for active service in the East. The scene presently changes to the Crimea, and here stories which we have heard before, but which come fresh to us in all their abomination, make us wish for Sir Thomas Picton, his tree, and a coil of stout red tape. We read of

"Men in the trenches twenty-four hours at a time, soaked to the skin; no change when they came up to their miserable tents, hardly a twig now to be got to boil their bit of salt pork; short of rations, too, for want of transport; everything cheerless, the sick lie down to die in peace in the miry clay, they have no energy left. Thousands might have been saved but for the red tape."

Again, "A ration of green, raw coffee berry was served out to the men and officers; a mockery in the midst of all their misery; nothing to roast coffee, nothing to grind it." "Inspected the brigade. Found the men in tatters, but their powder dry; their old clothes tied about their half-naked frames, and old knapsacks bound about their legs." "We seldom see any of the red tapists in our camp." * * * "I proposed, when there was some snow on the ground, to put runners on the *arabas* in the sleigh fashion, and get up provisions from Balaclava, a simple matter, and easily accomplished. Oh! no; it did not emanate from the proper quarter, and was poohpooed; I was a meddler, and so on. In three days the camp might have been amply supplied with abundance of stores from that wretched Balaclava." Besides the narrative of his campaigns, the author gives interesting accounts of numerous journeys, which he has undertaken for his own pleasure, to Rome, Naples, Athens, and other places. Altogether, from the variety of the scenes, and strong interest of the incidents through which he carries us, the book can scarcely fail to be entertaining as well as instructive. Written by a soldier as gallant, as successful, and, if it be a necessary qualification, as old as themselves, it seems to us just the work that the military hierarchy who are so insolently intolerant of civilian suggestion might find an excuse for reading and inwardly digesting—so that the experiences of the Peninsula and Crimea may not be lost, in the event of England being unhappily plunged into another European war. In a few years we may have forgotten the warning which impressed us so deeply when we were first made acquainted with the mismanagement of matters in the last war.

Proofs in Support of Lieut.-Col. Richards' Claims as chief Promoter and Originator of the Volunteer Movement of 1859. Swift & Co., London.

MOST people probably consider, without bestowing much thought upon the matter, that our unpaid army arose from a spontaneous ebullition of national ardour, evoked by the exigencies of the period. Many are, perhaps, glad to forget sinister prognostications and ridicule thrown upon the movement at its outset, and the doubts, very frequently expressed, whether men would turn, at stated periods and by beat of drum, from their offices, counters, or farms, to gird bayonets upon their thighs and to shoulder rifles. It was a common observation that, even if the youth to whom the promoters of the movement addressed them-

selves should be discovered to possess such an amount of martial energy, the figure they would cut in military array would be rather mirth-inspiring than soldierly. In fact, ten years ago, hardly the boldest ventured to predict permanency for the institution of volunteering in time of peace.

The pamphlet before us has been written to urge the appropriateness of an expression of national gratitude to Lieut.-Col. Alfred B. Richards, on his retirement from an active command in the force. It asserts that "to Colonel Richards is due the merit of having practically initiated the movement in the face of discouragement and difficulty which would have daunted and silenced a man less devoted to the cause which he had taken in hand," and therefore invites "the nation, and especially the volunteers, whom he has done so much to call into existence, to respond to this appeal to their patriotic gratitude as Englishmen." Here we find how one man, patiently struggling against ridicule or passive acquiescence, found means to ventilate, through the press and otherwise, his propositions, that the volunteer corps should be organized and drilled throughout the United Kingdom, and that, although we were styled a nation of shopkeepers, our ancient military spirit still existed. In the spring of 1859, Colonel Richards persuaded, not without difficulty, Admiral Sir Charles Napier to preside at a meeting convened in St. Martin's Hall. That meeting crowned the enthusiast's work. The speeches uttered at it were endorsed by the press, and found an echo in the hearts of the people of England; and in twenty-six days a War Office circular gave the people's army an official existence. We agree with the author, after perusing the ample evidence adduced in his pamphlet, that this effect can be justly ascribed to his hero, and to his hero only, and our acquiescence follows in his claim that such eminent service demands public and positive recognition.

MUSIC AT HOME.

THE huge vessel commanded by Manager Mapleson slipped its moorings, and commenced the perilous voyage of 1867, to the flourish of many brazen trumpets in Verdi's *I Lombardi*. Signor Verdi himself has taught us to believe in better things than those contained in this musical story of the Crusades; and *I Lombardi*, in the present year of grace, is somewhat disappointing to all infatuated people who quail at the crash of super-abundant brass, and sigh for gentler strains. The opera is chiefly remembered through the air "La mia letizia" for the tenor, Oracte. On the opening nights of the season Mr. Tom Hohler deputized for Signor Mongini. The great feature of the cast is Mr. Santley's Pagano, a magnificent performance both as regards singing and acting. *Le Nozze di Figaro* has, of course, been again brought forward with a Cherubino neither so good nor so bad as some of her predecessors in the part. Madame Demeric Lablache is perhaps grateful for many kind things said about her by members of the fourth estate; but she can hardly have appreciated a delicate attention paid her by a morning luminary, on Monday, May 20th. Referring to a representation of *Lucrezia Borgia*, on the previous Saturday, the friend to truth and the conscientious critic admitted a certain "piquancy" in Madame Demeric Lablache's Orsini, next stated as his deliberate opinion, that the piquancy aforesaid "was somewhat overstrained," and concluded his reliable criticism with the declaration that the overstrained piquancy was approved of by the audience. Unfortunately for the censor's veracity, Madame Demeric Lablache *did not play the part* on that particular evening. She, perhaps, would have given London exactly the Maffeo the commentator saw in his mind's eye; but Madame Trebelli Bettini stood in the way, and overturned all the pleasant theory advanced by the critic who so unhappily deceived himself in trying to enlighten others. On the night alluded to, Madame Giacconi, a new Lucrezia Borgia, was introduced to the London public. The lady came, and saw, but did not conquer; for the British lion is an animal of strong prejudices, and refuses to acknowledge the merits of a Lucrezia with a comparatively weak voice, and with a superlatively weak idea of acting. It was hardly probable that another great, or even notably good, representative of the terrible Duchess would be allowed, if able, to divide such honours with Titiens the magnificent. Herr Rokitansky is not so good a Falstaff as he is a Marcello; but he is a genuine artist, and has a magnificent bass voice.

Operatic London must have its "pet" or "pets," and that one huge shell will hold two sweet kernels is tolerably evident at the Royal Italian Opera, where Mdlles. Adelina Patti, and Pauline Lucca exercise most despotic rule. The former is again triumphant, as Rosina in *Il Barbiere di Seviglia*, and on the night of her re-appearance was invited, more cordially than ever, to tread upon the neck of the prostrate public. Neither real nor comparative novelty is yet the order of the day at Covent Garden.

Euterpe has gained a new home in Langham Place, and lost an old one in Long Acre. St. George's Hall, the peculiar and chosen resting place of the new Philharmonic Society is both commodious and admirably adopted for musicial purposes. Dr. Wylde is evidently no Tory in matters of art, for the welkin of St. George's has already rung to songs made popular in Music Halls. The home to be henceforth reckoned among the things that were, is St. Martin's Hall, which will be converted into a theatre, and opened to the public before the next Pantomime season. In this gloomy, cold, and depressing apartment, Madame Lemmens-Sherrington made, if we remember truly, her first appearance as a concert vocalist, in the time of the Hullah Class celebrations. Through various vicissitudes has the building passed, fire being the greatest, and Masquerades, Amateur Performances, Japanese ditto, Aztec ditto, and political meetings the least.

The Grand Opera Concerts, at the Crystal Palace, are in progress, and at the first of them Signor Bottesini went through the ordeal of playing a Tarantelle of his own, with the same chance of making it heard, that he would have on Hampstead Heath. To all but those immediately at hand, the Tarantelle was literally a sealed book, and a profound secret. For the first and second concerts the vocalists were from the Royal Italian Opera; and for the third, from Her Majesty's.

Miscellaneous concerts, both morning and evening, are announced on all sides; and from the mass of gaslight entertainments may be selected for very honourable mention, that given by Mr. C. I. Hargitt, at St. George's Hall, early in May. Mr. Hargitt brought forward some of the earlier works of Beethoven, and deserves the thanks of connoisseurs for so doing. Miss Madeline Schiller, a few nights afterwards, tendered her contribution to the fashionable concert season, and played Chopin's fanciful Polonaise in E flat delightfully. Miss Schiller is not yet a great player, in the sense of the word, but she has the wherewithal to make her one, and is endowed with a marvellously delicate touch—when she chooses to proclaim the fact. A slight tendency to exaggeration, both of tone and sentiment, is now the only blemish upon this singularly-gifted young lady's playing. Miss Schiller must have been greatly edified with the statement made in a daily paper as to her having performed a solo by Stephen Heller as an encore, when the piece in question was Weber's Rondo, "Il Moto Continuo."

CLARKSON STANFIELD, R.A.

IT is sad, perhaps ominous, to close our number with an obituary notice; but the passing away of so thorough a British workman as Clarkson Stanfield demands one from every fine-art-professing periodical. This much-loved gentleman died on the 18th of May, in his seventy-fourth year, full of years and honours, and we may almost say in harness, after a long season of merited popularity. He was a sea boy, and it were superfluous to say more of his marine works than that they have for more than a quarter of a century been the delight of his countrymen and an honour to the Academy which, indeed, adopted him some time after the million had set their mark of approval upon him. The commonalty of the Far East and the New Cut had bestowed their sweet-voiced tributes of joy and thanks upon Mr. Stanfield for some years before the *dilettanti* of the British Institution voted him prizes, or the Royal Academy annexed him. He was painter to the Coburg theatre in 1822, and there illustrated the spectacular pieces which made that play-house famous, and the "transpontine drama" an institution and a bye-word. The next year he painted the scenery for the Drury Lane pantomime, entitled "Harlequin and the Flying Chest." In 1824 he revelled in the sensational scenery demanded by "Der Freyschutz," and it is in the memory of old playgoers and professionals that his "Wolf's Glen," a "set piece" constructed with all the advantages at the disposal of the Drury Lane stage, was a remarkable and most successful effort. In 1825 Stanfield began a series of dioramas, which formed for many years as necessary and popular a feature of the Christmas pantomimes as are the transformation scenes of our own period; and we are disposed to think that the beautiful cloths on which the future academician displayed some of his finest fancies were far more artistic, if not so terrible, as the chemico-engineering triumphs of lime-lighted stage carpentry for which our pits and galleries annually award to Messrs. Beverley, Cormack, Slowman, and others their much-desired ovations. Even now we remember with pleasure one of these dioramas. It figured the progress from her cradle of a man of war, and Stanfield, of course, threw himself heartily into the work. We seem as we write to hear the deafening shouts of delight as the pictures followed each other across the Proscenium. We can fancy, too, how Stanfield must have treated Windsor Castle and Park in one year; Alpine passes in another; the Backwoods and Niagara in another; but facts and memory help us when we have to speak of the glories of "King Arthur" in 1833, for it was on the occasion of our first visit to a play and to the then three-and-sixpenny pit of Drury Lane that "His Majesty's Servants" enacted to our delight "The King's Seal," "The King's Word," and "King Arthur." The bill is before us now—a thrice royal programme never repeated. About this time he was working for the Sutherland family on a noble series of Italian scenes which ornament their great house at Trentham. He was made an associate of the Royal Academy in 1832, and member in 1835. His career as a scene painter was not, however, terminated by his absorption into the Academy; for we remember well how he assisted the Covent Garden manager Macready in a grand spectacular edition of Henry V., in 1839, with the beautiful works "Before and after Agincourt." In 1842, his last theatrical triumph was the "Acis and Galatea," scenery which he painted for the then director of Drury Lane, and which truly took the town by storm. Since that period Stanfield's name has been familiar to the thousands who have annually flocked round his beautiful canvases on the walls of the Academy. When we mention "The Battle of Ischia," "The Day after the Wreck," "French Troops crossing the Magra"—an episode of the first campaign in Italy; "The Battle of Roveredo," "The Abandoned," "Wind against Tide," "The *Victory* towed into Gibraltar after the Battle of Trafalgar," "The Siege of St. Sebastian," and "The Bass Rock," we name but a few. There is, of course, not a collector of any importance in the country who has not if possible acquired a Stanfield; and where the Stanfield is, it may always be observed to be in a place of honour. His "Skirmish off Heligoland" (No. 199 in the present year's exhibition of the Royal Academy), a picture full of atmosphere, and painted with unrivalled delicacy, is evidence that the master's faculty was strong to the last; and it is to be hoped that ere long our National Collection at Charing Cross will be enriched by some specimens of this admirable marine painter, if they be only to range with those by the gigantic Turner which already figure there.

OLLA PODRIDA.

WORK AND PLAY.—If there be an aggravating incident in this very trying world, it is assuredly that of being mounted on a non-progressive donkey, unarmed with any available whip, stick, spur, or other instrument of cruelty, and wholly at the mercy of a treacherous conductor, who pretends to belabour your beast, and only makes him kick, and keeps you behind your party, when you have every reason in the world to wish to retain your place in it. Only one thing is worse; a mule which carries you through a whole day of weary Alpine climbing, just too far from all your friends to exchange more than a scream at intervals. If there chance on such an excursion to be ten pleasant people of your party, and one unpleasant one, whom you particularly wish neither to follow nor seem to follow, it is inevitably that particular, objectionable person whose mule your mule will go after, and press past every one else to get at, and drag your arm out of its socket if you try to turn it back, and finally make you wish that an avalanche would fall and bury you and the demon-brute you have got under you in the abyss for ever. On horse-back you are a lord (or lady) of creation, with the lower animal subject unto you. On mule-back, or ass-back, you are a bale of goods, borne with contumely at the will of the vilest of beasts; not where you please, but where, when, and how *it* pleases. —*Hours of Work and Play*, by Frances Power Cobbe.

THE HUMOUR OF VARIOUS NATIONS.—There are three classes of people in society,—those who *radiate* spirits, those who *reflect* spirits, and those who *absorb* spirits. The Radiators are few, the Reflectors sufficiently numerous, but the Absorbents, alas! nearly enough to balance them both. The height of the thermometer of cheerfulness at any social gathering might be predicted beforehand by any one who should carefully estimate the numbers of the guests to be ranked under these respective classes. Are there no Radiators? Then it is as useless to gather Reflectors as to fill a room with mirrors and expect them to be bright without the introduction of lamps. Are there two or three Radiators? Then Reflectors may be multiplied with advantage, almost *ad infinitum*; and even a limited number of Absorbents, carefully stowed away in corners, will not do much harm; but this must be managed with caution, for even the brightest of Radiators placed at dinner between two Absorbents, will often fade away, and merely "twinkle, twinkle," like a very "little star" indeed, for the rest of the evening.—*Ibid.*

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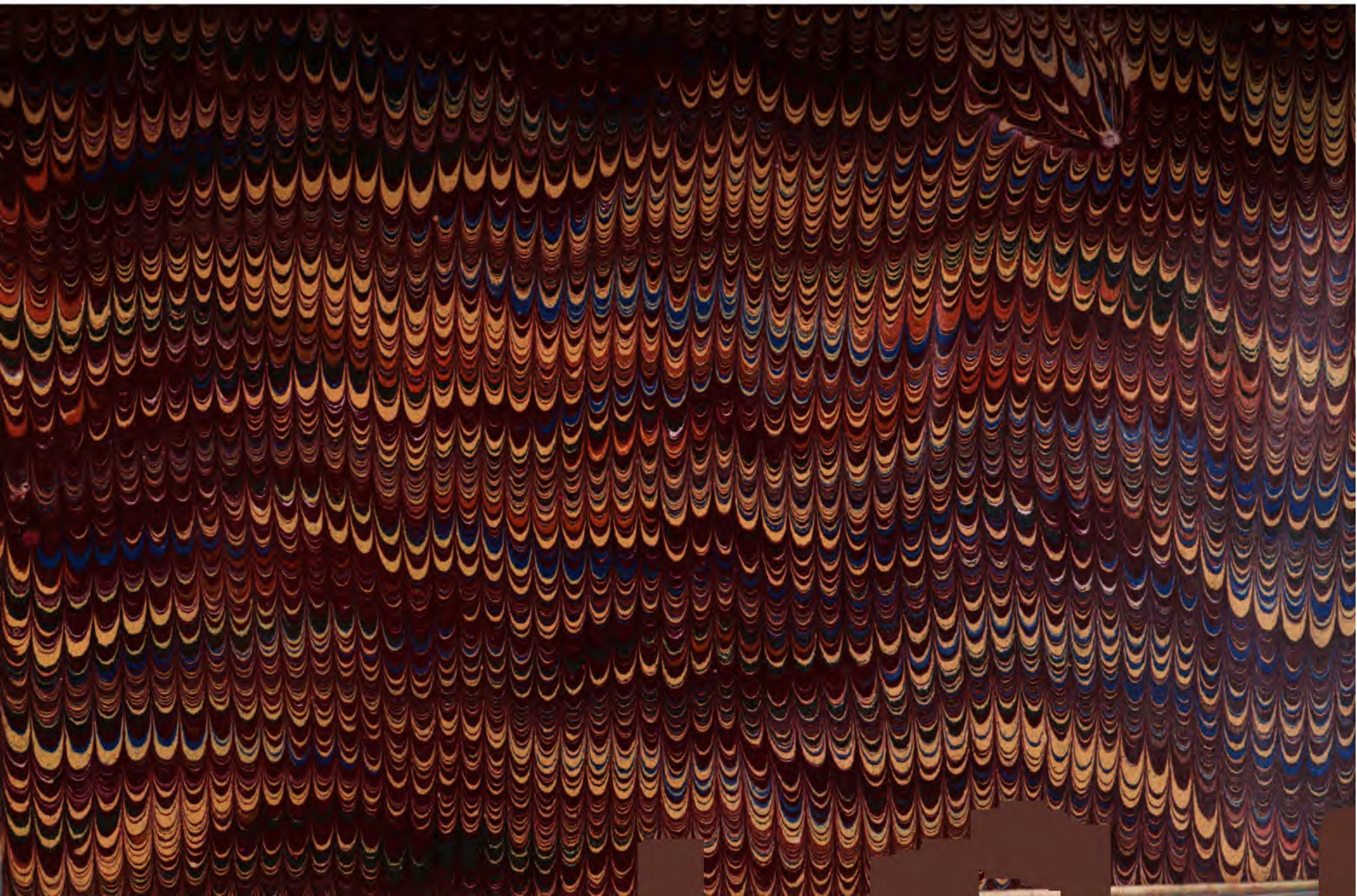

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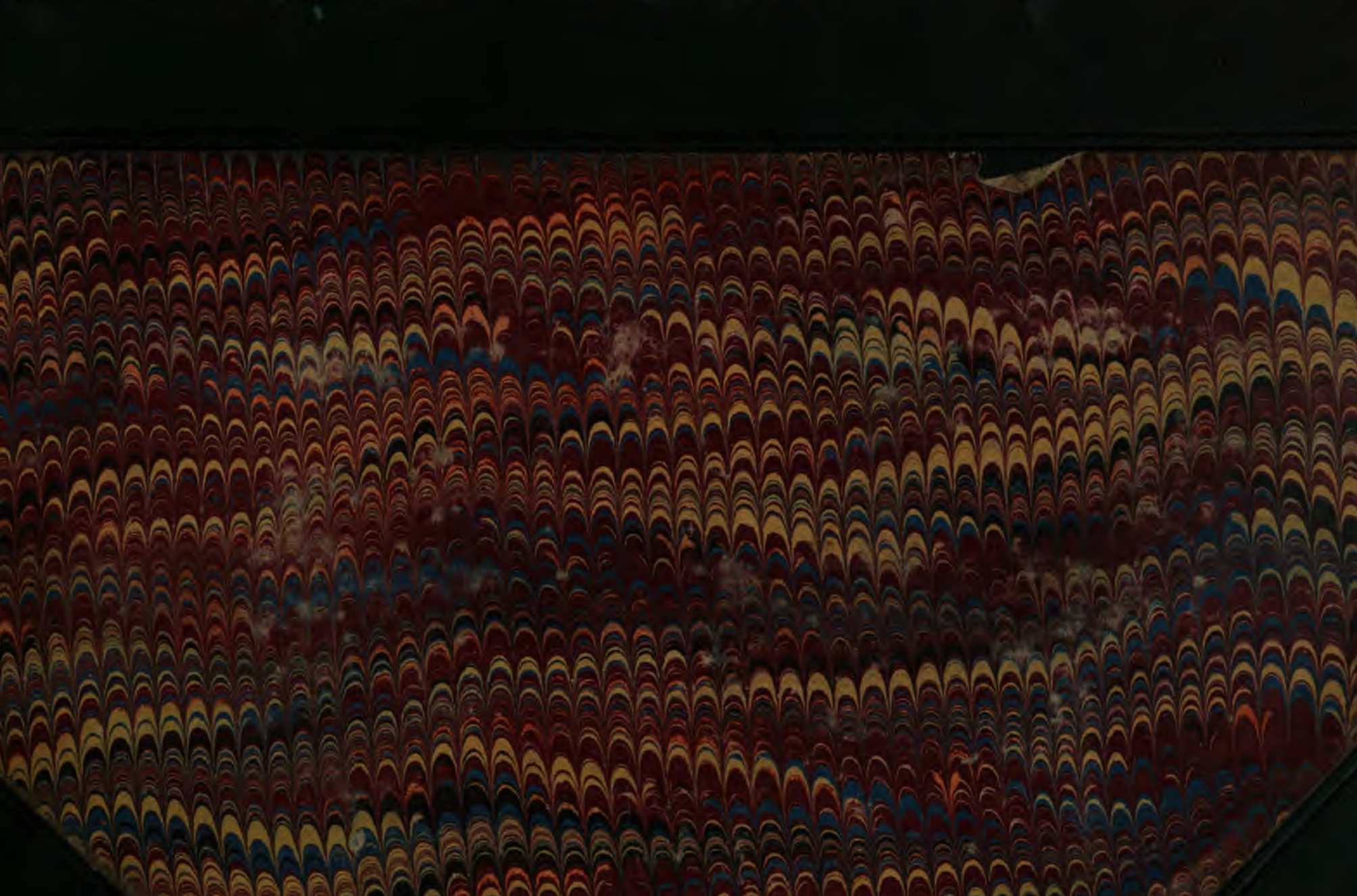
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